

medDream

Annex III

of MedDream USER MANUAL (version 8.6.0)

MedDream SendToPACS functionalities

version 3.2.0

The annex describes the usage of MedDream SendToPACS functionalities.

See the MedDream USER MANUAL document for general information about the MedDream product, installation requirements, and verification, IT security measures.

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SendToPACS functionalities

The annex describes the usage and configuration of MedDream SendToPACS functionalities. Using this software, you can convert images, video, and PDF files to DICOM and send them to PACS.

Features:

- Image to DICOM feature. Convert BMP, PNG, TIF, JPG images and send them to PACS.
- Video to DICOM feature. Convert AVI, MPG, MPEG, WMV, MOV, MP4, H264, MKV, FLV video files and send them to PACS.
- Possibility to update patient information in DICOM files before sending it to PACS.
- Possibility to add additional information field (additional custom DICOM tag) to the image.
- Possibility to configure only Worklist usage for NON-DICOM studies.
- Possibility to configure Institution name (tag (0008,0080)) and Station name (tag (0008,1010)) and use it in DICOM files.
- Possibility to set files filter (set custom file extension in application.properties file).
- Detailed information about files to be converted: image preview, image info view, DICOM info and DICOM tags view, DICOM pixel data extraction.
- Archive file support. Automatically extract the archive: ZIP. Supports 7z, ISO archives, but requires installing 7-Zip software.
- Automatic DICOM file recognition (exclude DICOMDIR and unknown files).
- Supported patient information: patient ID, full patient name (alphabetic, ideographic, and phonetic), birthdate, and sex.
- Supported study information: study UID, study ID, date, time, accession number, description, series number, modality, and character set.
- Possibility to specify character encoding: supported all extended character sets defined in the DICOM standard.
- Allows to append existing study with new files (select study and patient information from scanned DICOM files).
- Supports Modality Worklist Information (C-FIND), Query/Retrieve Information, Verification (Echo).
- Support Drag and Drop interface.
- Querying patient information from HIS using external API (HTTP request).
- Possibility to initiate actions from another app by using REST API: Modality Worklist search, NON-DICOM convert to DICOM, send to PACS.
- Windows explorer context menu (right mouse button) support.
- File conversion and forward process logs.
- Supporting Enterprise license.

See the MedDream USER MANUAL document (<https://www.meddream.com/files/meddreamviewer/doc/MedDream-User-Manual.pdf>) for more information about MedDream product:

- general information about the MedDream product,
- list of applicable standards,
- warnings regarding residual risks,
- installation requirements and verification,
- IT security measures.

License registration and product information

After Installation, the users can use MedDream SendToPACS software in DEMO mode with DEMO restrictions. The demo notification window is displayed, if the system runs without a registered license (in demo mode):

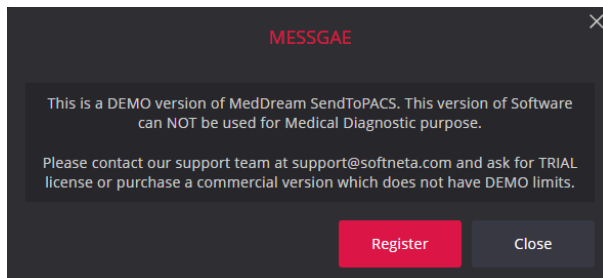


Figure 1. Demo version notification

The user can register product or “Close” information windows and use software in DEMO mode.



NOTE! License registration is required for legal software use for Medical purpose.

To register a license:

- If you have a license file, place it near the installation .exe, and on the installation process licensing will be adjusted automatically.
- Or
- Open the license registration window in one of the ways:
 - press the “Register” button in the demo notification window,
 - or open the About window and press the “Register” button in it.
- Enter the license number that you were given by the system administrator or system provider in the license registration window, and press the “Register” button:

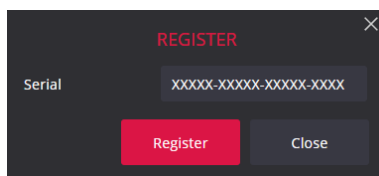



Figure 2. License registration window

- After the “Register” button is pressed, the system connects to the license server, verifies, and gets the license. The notification about successful license registration is displayed, and then the user can view the registered license data in the “ABOUT” window.



NOTE! Ensure that personal computer have access to <https://lic.meddream.com>.

To view the MedDream SendToPACS functionalities information, open about window by pressing the SendToPACS logo or info button  in the header of the SendToPACS application window:

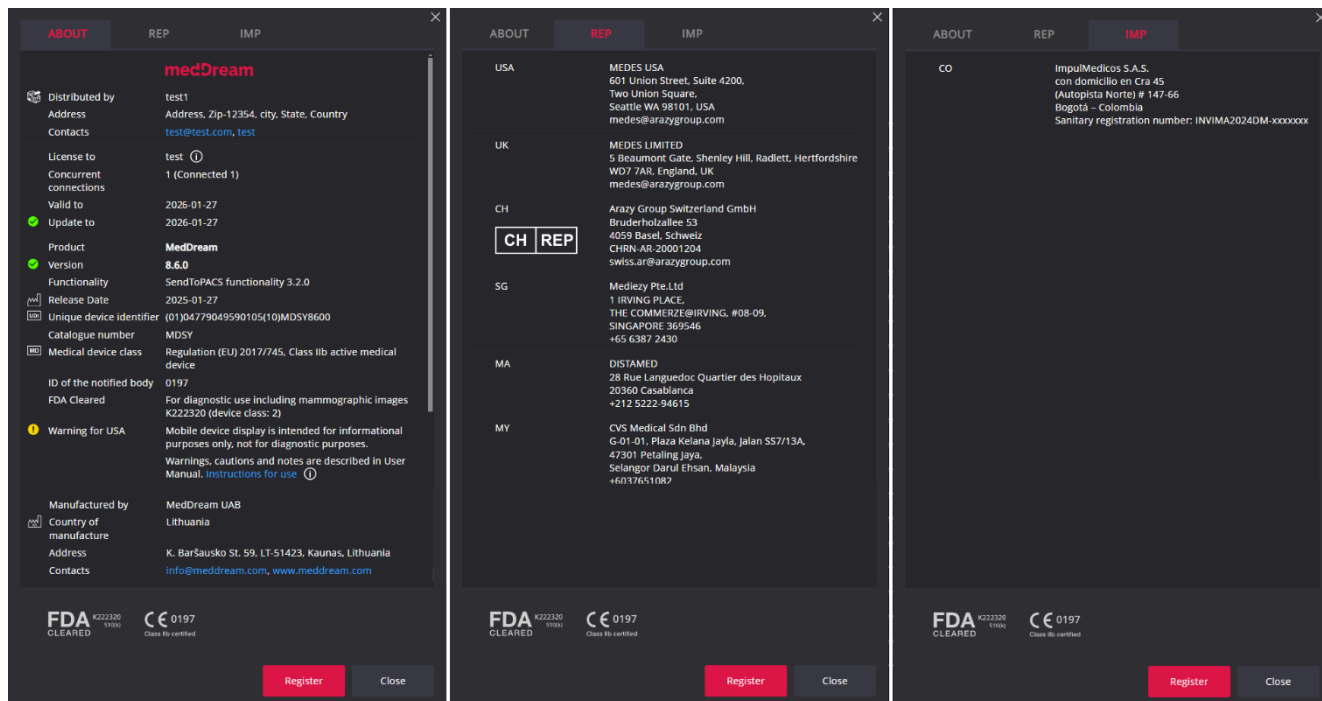


Figure 3. MedDream SendToPACS functionalities information in “ABOUT” window

The user can view the following information about the product:

- Product provides the official product name.
- Fields “Version”, and “Release date” holds information about the installed version:
 - The versions’ release notes are accessible by clicking the “Release notes” link;
 - The user manual of MedDream viewing functionalities is accessible by clicking the Instructions for use link;
- Unique Device Identification number.
- Fields “Medical device class”, “ID of the notified body”, and “FDA cleared” mark holds the products’ certification data.
- Fields “Valid to” and “Updates to” indicate dates, until the current license is valid and will receive updates.
- “License to” and “Distributor” contain information about organizations that own or distribute the license of current product installation.
- The manufacturer group contains “Manufactured by”, “Country of manufacture”, “Address”, and “Contacts” fields, which show the name and contacts of the product manufacturer.




NOTE! License to and Distributor information is displayed only if the license is registered.

Configuration



NOTE! Even in DEMO mode, it is possible to do all the configuration and testing (after licensing all Configuration Settings will remain).

To view or edit the configuration open the “SETTINGS” window by pressing the “Settings”  button in the header of the SendToPACS application window. The “SETTINGS” window has four tabs:

- "MAIN" – MedDream SendToPACS main software settings;
- "NON-DICOM" - MedDream SendToPACS software settings to define NON-DICOM functionality;
- "DICOM" - MedDream SendToPACS software settings to define DICOM functionality;
- "DEVICES" – remote PACS storage device list settings;
- "WORKLIST" – remote Modality worklist, Query/Retrieve information (C-FIND) or based HTTP request device list settings;
- "MONITOR" – shared network or simple directories list to monitor for incoming files.

See the MedDream SendToPACS INSTALL MANUAL document (<https://meddream.com/files/sendtopacs/doc/MedDream-SendToPACS-Install-Manual.pdf>) for more information about configuration.

Image Sending Workflow

After the software's launching, MedDream SendToPACS "MAIN" window is opened:

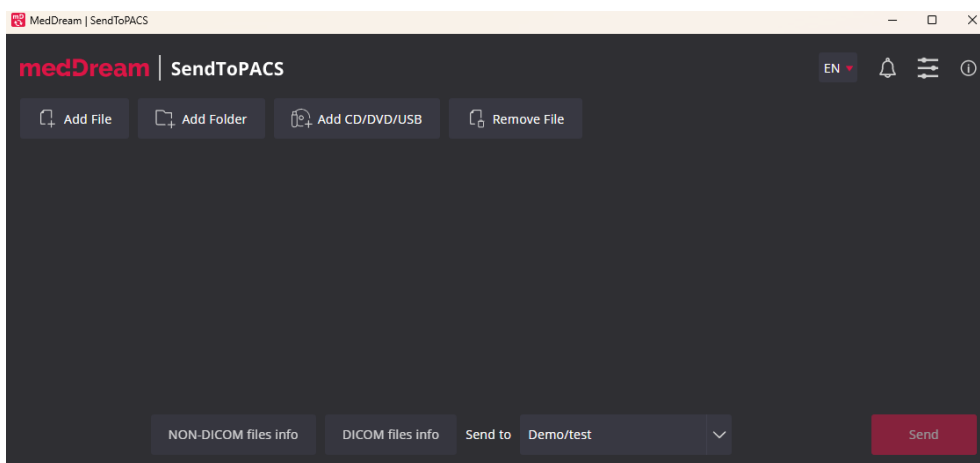


Figure 4. The empty main MedDream SendToPACS window

To start the image-sending workflow, files for sending should be available in the files list.

Files can be added using the buttons: "Add File", "Add Folder", "Add CD/DVD/USB". Data can also be added by drag-and-drop a single file, multiple files or an entire directory. See the relevant section below for details.

The system may add files automatically, if the monitored directory is configured, or the user can do it manually. Only supported file types and extensions can be added, converted, and sent. See the relevant section below for supported file types and operations.

Uploaded data files are grouped by study into separate tabs (named "1 Study", "2 Study"...) and all NON-DICOM files are placed in one tab.

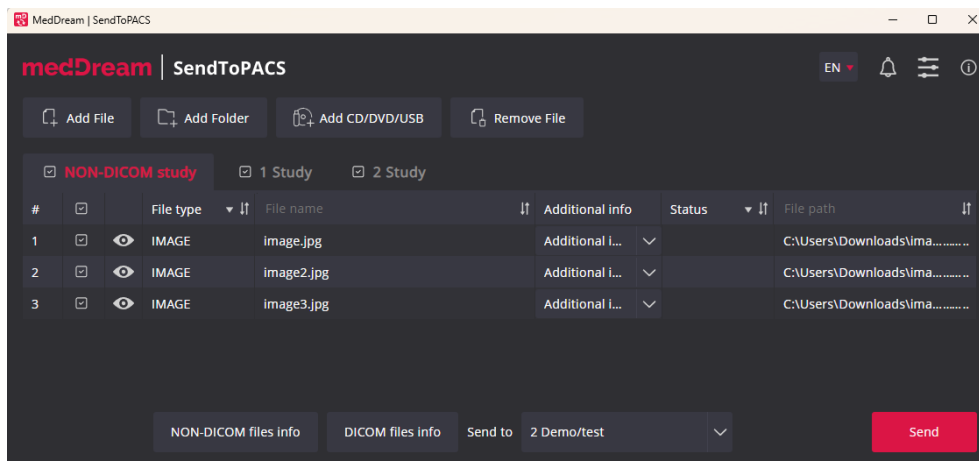


Figure 5. The main MedDream SendToPACS window with files prepared for sending

System enables file info entering functionality based on the type of files in the files list:

- “NON-DICOM files info” button is enabled if IMAGE, VIDEO, or PDF files are available in the files list;
- “DICOM files info” button is enabled if DICOM files are available in the files list.

Change the DICOM device in the “Sent To” device list, if needed. By default, either the device, that is configured as the default device, is selected, or the first item from the list, if the default device is not configured.



NOTE! It is recommended to select the device to which the files are going to be sent before entering the information for NON-DICOM files because the system prefills the charset in the “NON-DICOM FILES INFO” window with the default charset of the Send To device.

NON-DICOM files info

Press the “NON-DICOM files info” button to open the “NON-DICOM FILES INFO” window and enter the patient and study data, that is required for creating the DICOM file from NON-DICOM image or video. See detailed description in the section “Entering NON-DICOM files info”.



NOTE! The same entered patient and study data is used to generate DICOM file from all image, video, or PDF files, that are added to the files list.

DICOM files info

Press the “DICOM files info” button to open the “DICOM FILES INFO” window and enter or change the patient and study data for each study. See detailed description in the section “Entering DICOM files info”.



NOTE! Will change patient and study data for DICOM files that belong to the same study.

If the “Additional info tag” field is activated in Configuration, in the study list extra field is added “Additional info” for the possibility to add a comment or select a value from a list if one is created (see MedDream SendToPACS INSTALL MANUAL). The comment will be added to DICOM file into the specified TAG after converting to DICOM.

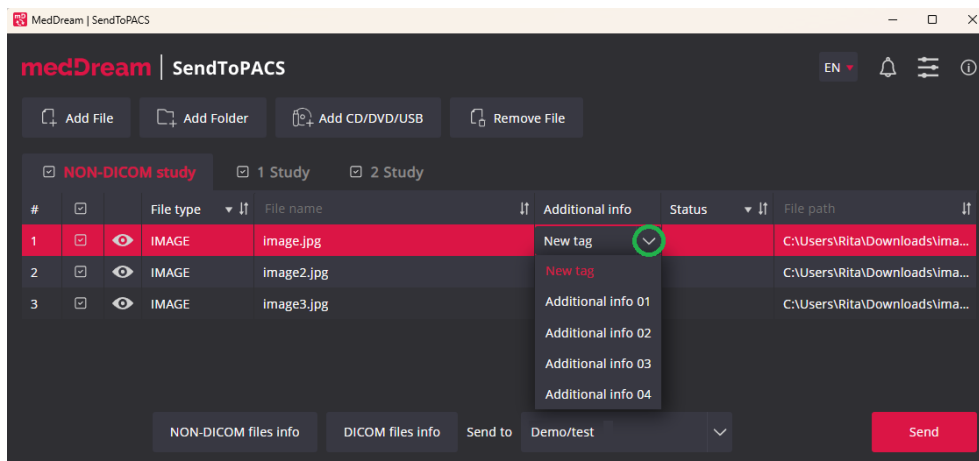


Figure 6. The main MedDream SendToPACS window with an extra field for comment

If file info for NON-DICOM and DICOM files is ready and the files list contains the files, that need to be sent, press the “Send” button to activate file conversion and sending process.

NOTE! Only selected data files will be sent.

For example:

- if only one of the 3 NON-DICOM files is selected, only that one will be sent, and the unselected two will not be sent;
- if the DICOM “1 Study” tab is unmarked, the files of this tab will not be sent;
- if all files of the DICOM “2 Study” tab are marked, all files will be sent;
- if only one of the 5 files is ticked in the 'Study 3' tab, only one file will be sent;

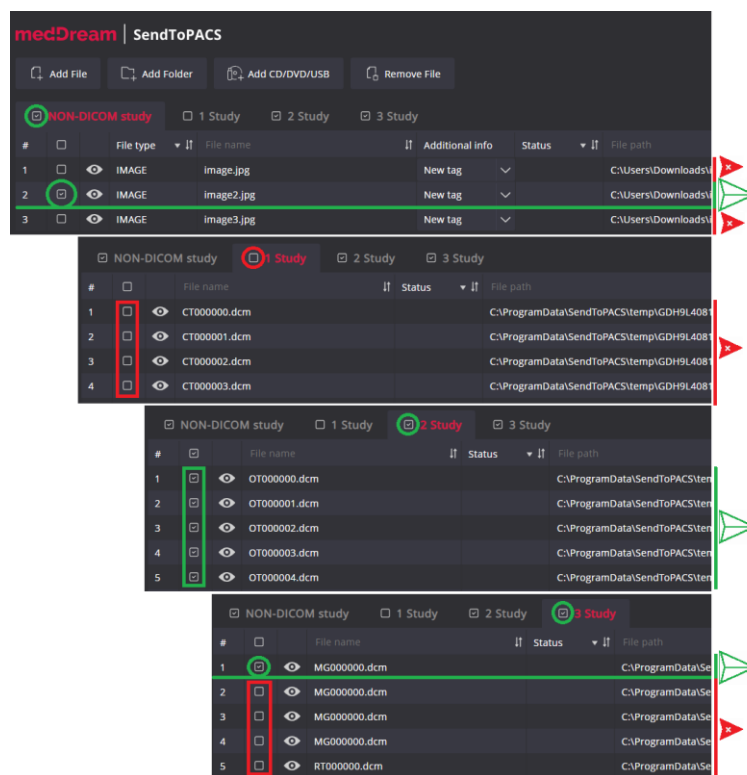


Figure 7. Selecting the files to be sent

System starts file process:

- Update DICOM file attributes,
- Checks images and video formats. If an image is not JPG – it will convert to JPG. If the video is not optimized or does not meet selected transfer syntax requirements by DICOM standard – will convert and adjust video settings.
- Convert NON-DICOM files to DICOM format.
- If required by PACS device – decompress all DICOM files.
- Send DICOM files.

The opened Process status dialog displays ongoing status. Depending on the status of the processes, you may be asked to take actions to continue or to stop the process:

- If you are using the demo version, the sending is not performed automatically, and you will need to wait 30 seconds and press “Send” in the Process status dialog.
- If an error occurs during the file conversion, the DICOM files sending is not started, and the convert to DICOM process log is displayed in the Process status dialog:

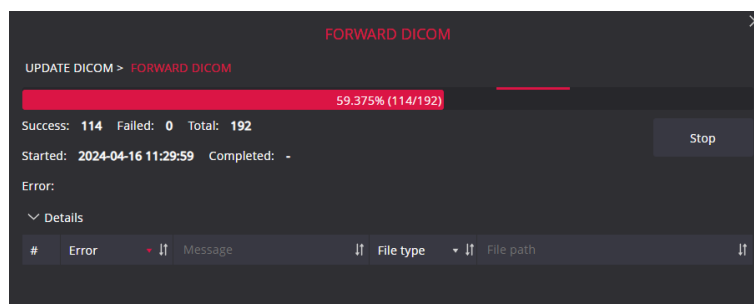



Figure 8. Process status dialog when the error occurred in the file conversion process

The progress with the progress of the current step indicator, and the button with allowed actions are displayed at the top of the Process status window:

- Press close , if you want to fix the problems, and then continue the sending process. You can view the detailed file information and process log for the red-colored files with errors in the info panel, and fix the problems with file or configuration.
- Press the “Send” button to restart the file converting and sending process from the beginning.

If an error occurs, the process status window is not closed automatically, and you will be able to view the log in it:

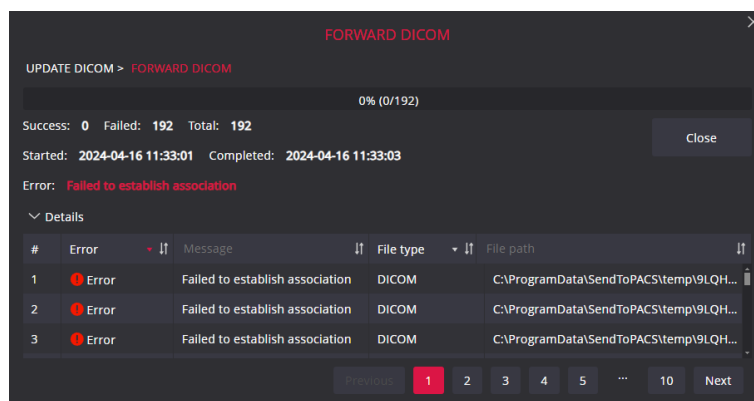


Figure 9. Process status dialog when the error occurred in DICOM file-sending process

Use the “Close” button to close the Process status window.

Entering NON-DICOM files info

To open the “NON-DICOM FILES INFO” window, press the “NON-DICOM files info” button in the main MedDream SendToPACS window:

Figure 10. “NON-DICOM files info” window with default values



NOTE! “DICOM file Studies” field is displayed only if the files list contains at least one DICOM file.

Patient information fields are grouped at the top of the window within the rectangular frame:

- “**Patient ID**” - unique patient identification number;
- “**Birth Date**” – patient birth date;
- “**Sex**” – patient gender. Available selection options: Male, Female, and Other.
- “**Last name**”, “**First name**”, “**Middle name**”, “**Prefix**”, and “**Suffix**” – fields for entering patient’s names.

By default, all the patient information fields are empty.



NOTE! “**Patient ID**” and “**Last name**” are required DICOM tags, and must be entered. All the other fields are left empty in DICOM file, if not entered.

The study data fields are placed below the patient fields:

- “**Study UID**” - unique study identification number. The default value is empty. The “Study UID” requires DICOM tag, and the system generates it, if left empty.



NOTE! If the existing “Study UID” is used, the converted files will be saved as a new series of this study.

- “**Date**”, “**Time**” – study date and time. Default values - current date and time.
- “**Series number**” - defines series order in the study. The default value for NON-DICOM files will be 1. If select study and patient information comes from added DICOM files – will increase the number according last found

series number (from DICOM files). The “Series number” is required DICOM tag, and the system generates it, if left empty.

- “**Modality**” – series attribute to define DICOM file type. The first entry of the single selection list box is selected by default. The field is required in DICOM file.



NOTE! The “**Modality**” list contains only the configured values. To add new values, go to the “MAIN” tab of the “SETTINGS” window and enter the required modalities

- “**Study ID**”, “**Accession no**”, and “**Description**” - additional data for the study, empty by default. The values are left empty in DICOM file, if not entered by the user.
- “**Charset**” - specify the charset that should be used for encoding the text values in DICOM. Possible values for this single selection list include all extended character sets defined in the DICOM standard. The default value is set to charset, which is configured as the default charset for the current “Send To” device in the “MAIN” MedDream SendToPACS “SETTINGS” window.

There are several ways to fill the patient and study data in the “NON-DICOM FILES INFO” window:

1. Manually select or enter the patient and study data.
2. Select from studies. The “DICOM file studies” drop-down list contains the studies, that are added by analyzing DICOM files. Expand the “DICOM file studies” list and select the study:

Figure 11. “NON-DICOM FILES INFO” window filled with data from DICOM file



NOTE! “**Modality**” from the selected DICOM file will be loaded even if it is not included in the configuration

You can change the values in the entry fields. The system automatically clears the “DICOM file studies” selection and “Study UID” field, as far as values no longer equal to study data. Values in the other fields.

3. Search for patient and study data in Worklist or Q/R servers. Press the “Search” button at the top left corner to open the “PATIENT/WORKLIST SEARCH” window. Find the patient, select the patient record, and press “Select” button. Will close “PATIENT/WORKLIST SEARCH” window and fill the fields with selected patients and study data:

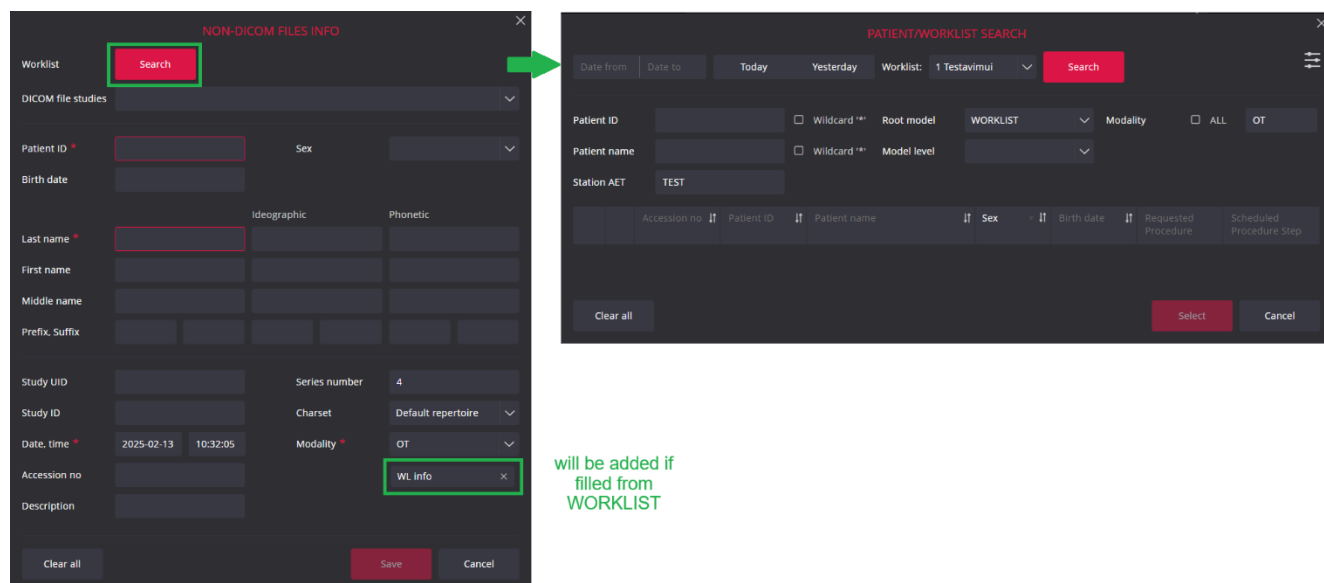


Figure 12. "NON-DICOM files info" window filled with data from Worklist record

4. Automatically found and map by the Patient/Worklist. For this to function, the setting on the NON-DICOM card shall be checked and the Worklist "Default search parameters" set of settings shall be properly configured. See install documentation for details on settings. If you have been automatically searched but there are more than one or no results, a search window will open.

Study information and worklist information is available only if copied from the worklist record.



NOTE! "Modality" from the Worklist record will be loaded even if it is not included in the configuration

You can change the copied values in the entry fields.

WL info

You can press the **WL info** button that is placed next to the "Study UID" field to see the worklist details:

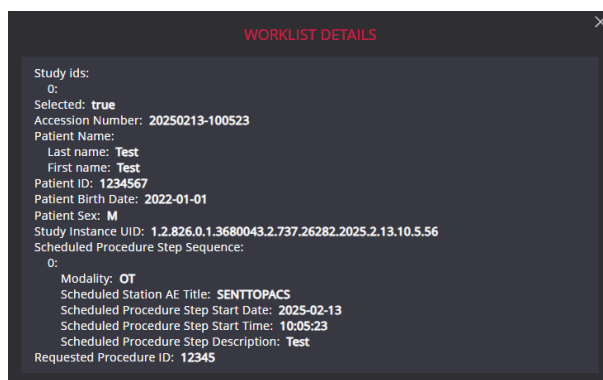



Figure 13. Worklist information window

Use the buttons at the bottom of the "NON-DICOM FILES INFO" window for the following actions:

- Press the "Clear all" button to clear all the copied or entered values. The fields will be filled with default values, if applicable.
- Press the "Cancel" button to cancel all the changes and close the window.
- Press the "Save" button to save the changes for further usage and close the window.

If mandatory NON-DICOM information is missing, an indicator  is displayed on the tab  **NON-DICOM study** .

 **NOTE!** If the patient data is not filled in and the user selects the “Send” button, the system will automatically open the “NON-DICOM FILES INFO” window for the user to input the required data.

Entering DICOM files info

To open the “DICOM FILES INFO” window, press the “DICOM files info” button in the main MedDream SendToPACS window:

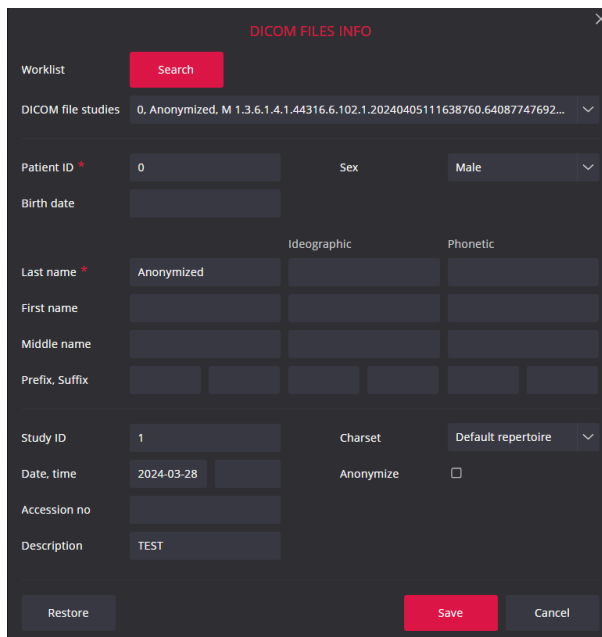


Figure 14. “DICOM files info” window

“DICOM FILES INFO” window displays found studies from DICOM files. By default, will select the first item from “DICOM file studies” drop-down list. If the user selects DICOM file and then opens “DICOM FILES INFO” window – will select the study item that belongs to DICOM file. Expand the “DICOM file studies” list and select the other study to view and edit its data.

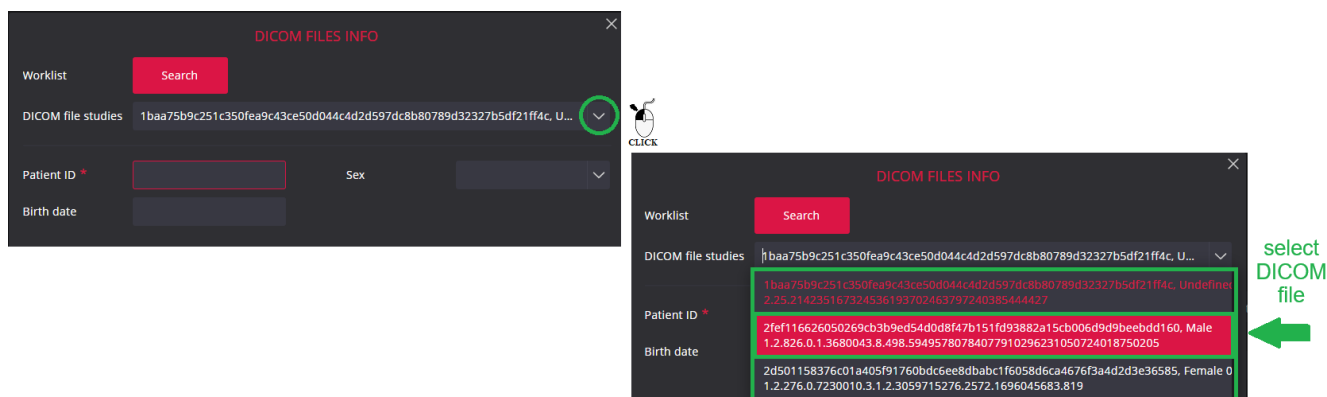


Figure 15. “DICOM files info” window. List of DICOM file studies

Patient information fields are grouped at the top of the window within a rectangular frame. You can enter or change the following patient data: “Patient ID”, “Birth Date”, “Sex”, “Last name”, “First name”, “Middle name”, “Prefix”, “Suffix”. See more detailed field descriptions in the section “Entering NON-DICOM files info”.

The study data fields are placed below the patient fields. You can enter or change the following study data: "Study ID", "Accession no", and "Description". See more detailed field description in the section "Entering NON-DICOM file info".

"Charset" selection allows to specification of the charset that should be used for encoding the text values in DICOM. The charset, that is used in viewed DICOM files, is selected by default. If the Study contains a multiple character set – will not allow to change this value for the selected study.

When "Anonymize" is checked, the system automatically fills in the "Patient ID", "Date of Birth", "Surname", "First Name" and "Study ID" with anonymized information.


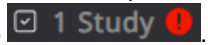
Figure 16. Anonymize



NOTE! When "Anonymize" is unchecked, the fields are not auto-cleaned. To restore a DICOM value, click on "Restore".

There are several ways to enter or change the patient and study data:

1. Manually change the patient and study data. Press on the entry field and edit the text, or expand the drop-down list and select the value from the list.
2. Search for patient and study data in MWL or Q/R servers and use this data. Press the "Search" button at the top left corner of the window to open the "PATIENT/WORKLIST SEARCH" window. Find the patient in the worklist server, select the patient record, and press the button "Select". The software fills the "DICOM FILES INFO" window fields with selected study and patient data. The search window has an option to assign the result records to DICOM files (described in more detail below).
3. Anonymize the data by selecting the "Anonymize" checkbox.
4. Automatically found and map by the Patient/Worklist. For this to function, the setting on the DICOM card shall be checked and the Worklist "Default search parameters" set of settings shall be properly configured. See install documentation for details on settings.

If you have been automatically searched but there are more than one or no results, a search window will open. If no value is added and the search window is closed, an indicator  is displayed on the study tab .

If the Patients/Worklist information has been found and mapped, the "Linked study" column is filled in the search dialogue. Hovering the mouse over the column value displays the study information, and at the , "Selected by" displays the values that matched the search and mapping.

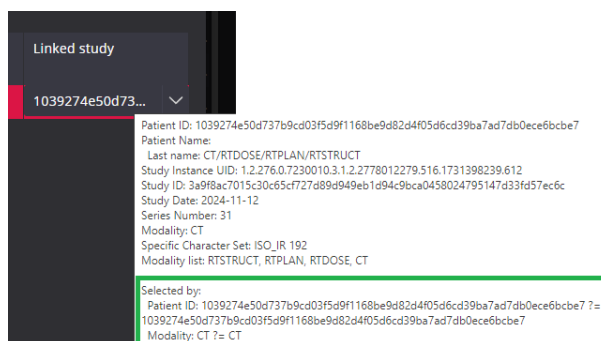


Figure 17. Patient/Worklist automatically mapped

Study and patient information is updated only for the selected and viewed DICOM file study, which data is currently displayed in the “DICOM FILES INFO” window



NOTE! Study information is updated only if the data is copied from the worklist record.

Use the buttons at the bottom of the “DICOM FILES INFO” window for the following actions:

Press the “Restore DICOM files info” button to undo all the data changes and entries for the current DICOM file study and fill the fields with values from the initial DICOM file.



NOTE! The data is restored only for the selected and viewed DICOM file study, which data is currently displayed in the “DICOM FILES INFO” window.

Press the “Cancel” button to cancel all the changes and close the window.

Press the “Save” button to save the copied and entered values for further usage and close the window.



NOTE! The “Cancel” and “Save” operation applies to all the data.

Patient search

To open the “PATIENT/WORKLIST SEARCH” window, press the “Search” button in the “NON-DICOM FILES INFO” or “DICOM FILES INFO” window:

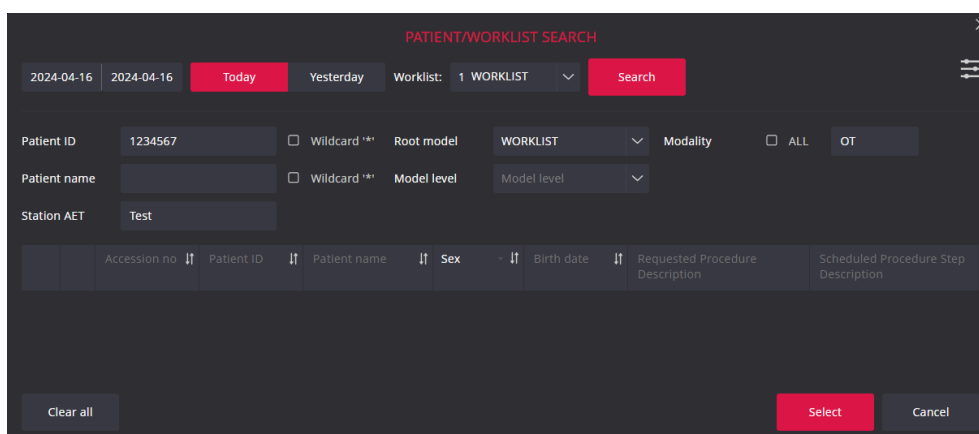




Figure 18. “PATIENT/WORKLIST SEARCH” window with default search criteria

To search for a patient, you need to do the following steps:


1. Select the device in the drop-down button "Worklist" to set default search options. By default, the configured default worklist device is selected in "Worklist" field in "Patient/WORKLIST search" window. If the default worklist device is not configured, the first device from the list is selected by default.

 **NOTE!** Press  button on the right of the Worklist field to open the "WORKLIST" tab in "SETTINGS" window and change settings.


2. Enter or change the search options. The default values:
 - "Patient ID" and "Patient Name" fields are empty, with selected wildcard options.

To search for a specific patient, fill "Patient ID" or "Patient Name" fields and uncheck the "Wildcard" checkbox on the right (to perform an exact match).

- "Root model" and "Model level" options define the DICOM information model and its level.

 **NOTE!** For more information, please see MedDream SendToPACS DICOM Conformance document.

- "Station AE" option allows to search the MWL scheduled procedures for this station. The exact AE Title match is required;
- "Modality" option allows to search the MWL scheduled procedures for this modality. One modality should be entered, and an exact match is required. Check "ALL" checkbox to not filter the worklist by modality.
- "Date" option allows to search the MWL scheduled procedures for a defined date. Uncheck "Date" checkbox to remove the filter by procedure date.

 **NOTE!** "Scheduled AET", "Modality", and "Date" criteria apply only for Modality Worklist Information Model ("Default root model" value "WORKLIST").

3. Press "Search" button to initiate the search - make a request for the data that meets the specified search criteria from with selected device.

Use the "Today" or "Yesterday" buttons for a quick search by procedure date.

4. System displays the results. The worklist is returned, if the search was performed with WORKLIST information model:

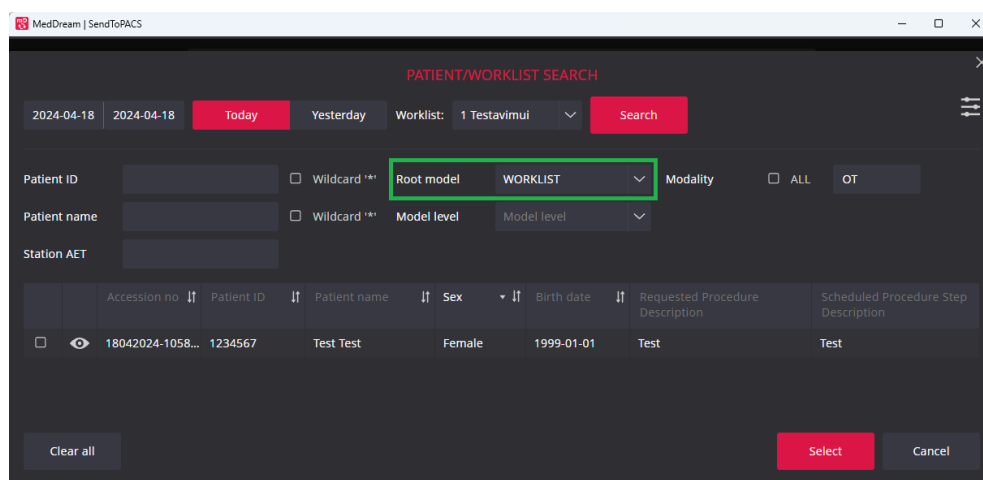





Figure 19. "PATIENT/WORKLIST SEARCH" in WORKLIST model results window

You can sort worklist items by any column in ascending or descending order: press  on the column header to sort or change the sorting order. The triangle on the right of the column name indicates, that files are sorted according to this

column, and the sorting order: pointing up triangle  for triangle in ascending order, and pointing down triangle  for descending order.

Press the  button to view the detailed patient and worklist information.

The patients' list is returned, if the search was performed in Query/Retrieve Information Model ("Default root model" value is one-off: 'STUDY'; 'PATIENT'; 'PATIENT_STUDY').

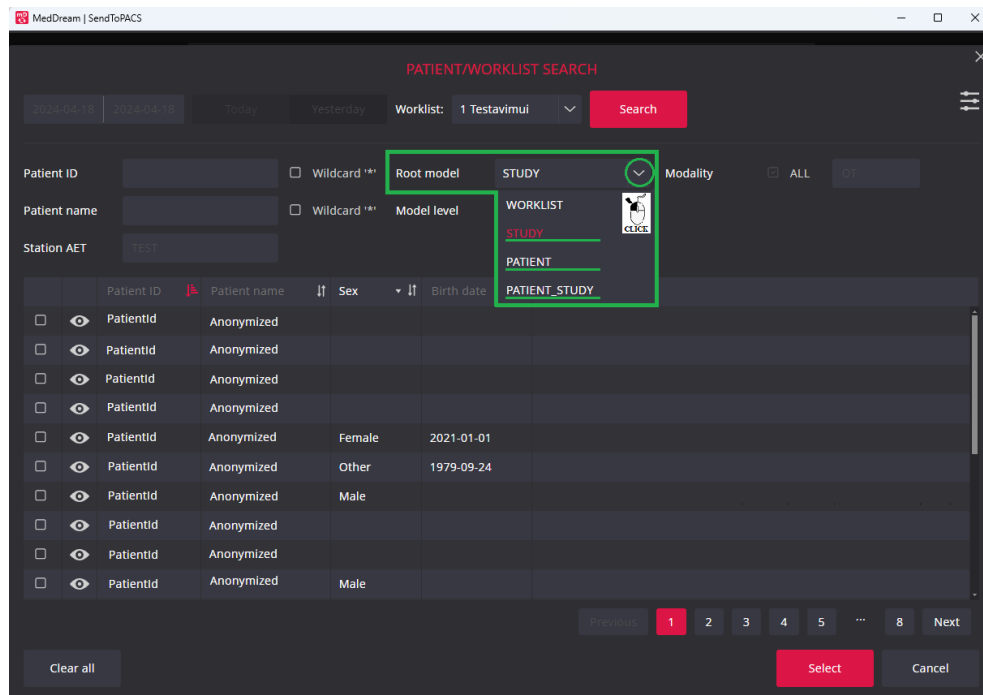



Figure 20. "PATIENT/WORKLIST SEARCH" in STUDY, PATIENT, or PATIENT_STUDY model results window

Press  button to view the detailed patient information:

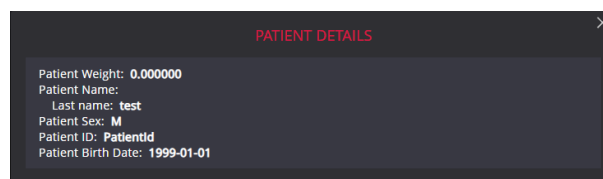


Figure 21. Detail patient information in the "PATIENT/WORKLIST SEARCH" window

- An additional action column "Linked study" is visible. If WORKLIST/STUDY/PATIENT/PATIENT_STUDY is used, the column is filled (the value of the "DICOM file study" is visible). If it is not used, it can be filled in the list by selecting the DICOM file study values in this search window (the list is generated dynamically from the loaded but not yet used DICOM file study values).

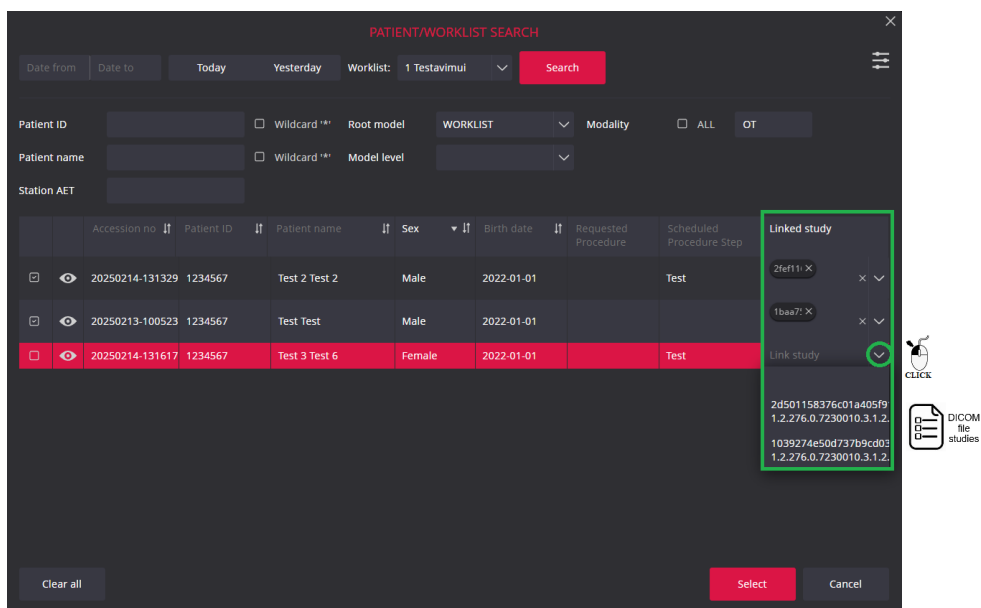


Figure 22. "PATIENT/WORKLIST SEARCH". Linked study

- Press "Select" to close "PATIENT/WORKLIST SEARCH" window and update the study and patient information in the previous window: "NON-DICOM FILES INFO" window or "DICOM FILES INFO" window.

API usage

Even in DEMO mode, it is possible to use API (after licensing all Configuration Settings will remain).



NOTE! API is available from version 2.1.0

To enable API open application.properties from your SendToPACS installation directory and add the following settings:

- api.username=test
- api.password=test
- Save settings and restart SendToPACS service;

Detail API documentation in HTML format can be accessed using "API doc" link <http://127.0.0.1:8086/api/api.html>.

API Demo page

[API doc](#)

How to use

1. Configure Local AE Title.
2. Configure Worklist server - find worklist and patient.
3. Configure Pacs server - to send files.
4. Fill Search worklist form and press Search button - will perform search in Worklist server. If no items found -> go to Manually sendRequest and build JSON request manually with [API doc](#).
5. Fill Manually add paths and press the button Send to perform conversion and send to Pacs server.
6. Manually fill Manually sendRequest with JSON and press the button Manually Send.

Local AE Title

SENDTOPACS

Worklist server

AE Title: PACS
 Host IP: 127.0.0.1
 Port: 1234
 charset: ISO_IR 192 - Unicode in UTF-8

Pacs server

AE Title: PACS
 Host IP: 127.0.0.1
 Port: 1234
 charset: ISO_IR 192 - Unicode in UTF-8

Figure 23. API Demo page

To access SendToPACS API Demo page open the following address in your browser: <http://127.0.0.1:8086/api/> and fill in the following settings:

- Local AE title - DICOM application Entity Title of MedDream SendToPACS software. The DICOM Application Entity Title uniquely identifies a service or application on a specific system in the network. It is required to identify sending software for the PACS server (or other DICOM receiving services). The proposed value is 'SENDTOPACS', but the user may change it. The same AE title name must be registered into the PACS server (or other DICOM receiving services) AE List (as device).
- Worklist server: AE Title – AE Title of your PACS server where the worklist list is stored. Host IP – IP address of PACS server. Port – Port number of PACS server. Click Echo to verify for successful connection.
- PACS server: AE Title – AE Title of your PACS server. Host IP – IP address of PACS server. Port – Port number of PACS server. Click Echo to verify for successful connection.

Search worklist

You can perform a search in PACS worklist by: studyUID, Modality, Patient Name, Patient ID, Patient Birth Date, Study Accession number, Requested procedure ID, Scheduled Procedure Step Start Date, Scheduled AE title, Root model, and Model Level.

Search worklist

studyUID:
 modality**:
 patientName: patientNameWildCard:
 patientID: patientIdWildCard:
 patientBirthDate:
 studyAccessionNumber:
 requestedProcedureID:**
 scheduledProcedureStepStartDate**:
 scheduledAet**:
 rootModel:
 modelLevel:

** - if 'rootModel'="WORKLIST" or empty

Count:

Figure 24. Search worklist

- To perform a test search, enter the patient ID that exists in your PACS worklist and press the “Search” button:

```

Search
Count:1
{
  "requestedProcedureID": "visitid",
  "patientName": {
    "familyName": "Testname",
    "givenName": "Testlastname"
  },
  "requestedProcedureDescription": "ordernumber",
  "studyAccessionNumber": "33339",
  "patientSex": "F",
  "patientID": "477779",
  "requestedProcedureCodeSequence": [
    {
      "codeValue": "17",
      "codingSchemeDesignator": "schemecode2",
      "codeMeaning": "Meaning2"
    }
  ]
}
1

```

Figure 25. Search results

File list operations

Adding and removing files

Files can be added automatically or manually to the file list in the MedDream SendToPACS “MAIN” window.

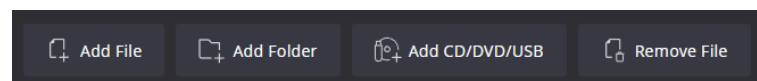


Figure 26. Buttons for adding and removing files

The monitored directory

The files, that are added to the monitored directory when the application is running, are automatically added to the files list.



NOTE! If the files were pasted to the monitored directory when the application was not running, such files are not added automatically. You should add them manually.

Add file or folder

Press the “Add File” button at the top of the files list to select the file manually in windows file open dialog:

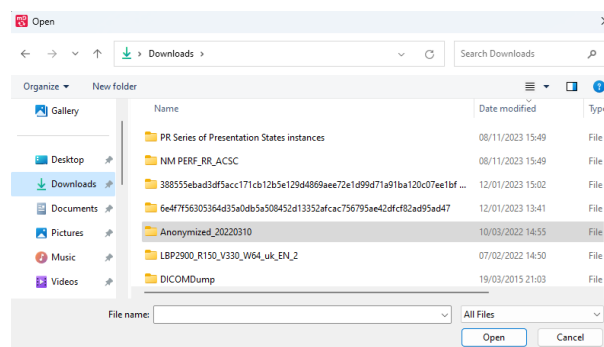


Figure 27. File selection in windows file open dialog

You can select multiple files at once in the file open dialog:

- to select multiple files in a row, press on the first file, and then press on the last file holding the SHIFT key pressed;
- to select multiple files, press on each file holding the CTRL key pressed;

Press the “Add Folder” button at the top of the files list to select the folder in windows file open dialog, and add all the files from this folder.

Add CD/DVD/USB

Press the “Add CD/DVD/USB” button at the top.

Once selected, the system will search for the DICOMDIR directory and scan the files against it.

If there is no DICOMDIR directory, a message is displayed indicating that 'Add File' or 'Add Folder' must be selected for the upload.

Drag-and-drop

Files can be selected and drag-and-drop into the SendToPACS “MAIN” window.

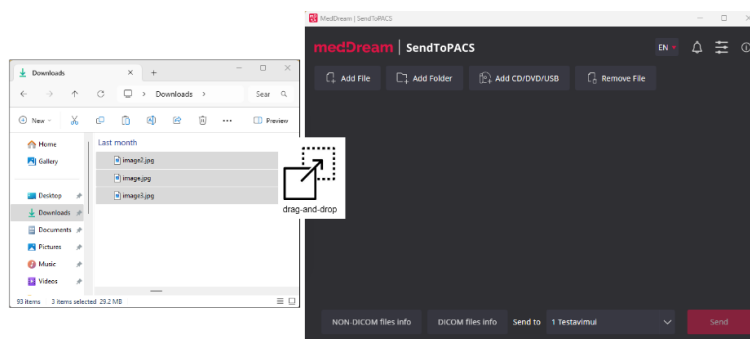


Figure 28. Uploading files with drag-and-drop

Remove file or files

To remove unnecessary files, select them from the list.

If you want to remove files from the whole study, you can check the whole tab.

The deletion action requires approval.

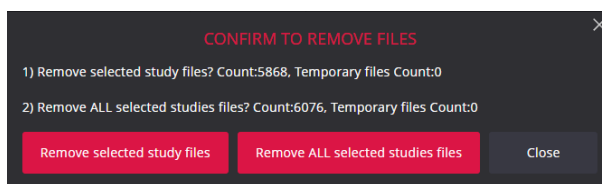


Figure 29. Delete action confirmation

If the first button of the delete action "**Remove selected study files**" is selected, only the files of the active tab will be removed. The files of the other tabs will not be deleted, even if they have been selected.

If the second delete action button "**Remove ALL selected studies files**" is selected, all files on all tabs will be removed.

Supported file types

The software checks file extension before adding a file to the list, and displays the type of the file in *File type* column. Only supported file types and extensions can be added to the list, converted, and sent.

Supported file extensions for IMAGE type: JPG, JPEG, BMP, PNG, TIF, TIFF.


Supported file extensions for VIDEO type: AVI, MPG, MPEG, WMV, MOV, MP4, H264, MKV, FLV.


Supported file extensions for DICOM type: DCM, DIC.

Supported file extensions for PDF type: PDF.

If required to support other IMAGE, VIDEO, DICOM, and PDF files with different extensions – see installed software properties file 'C:\Program Files (x86)\SendToPACS\application.properties'.



The system may extract the file from the archive if the 7z software is available at 'C:\Program Files\7-Zip\7z.exe' or 'C:\Program Files (x86)\7-Zip\7z.exe'.

 **NOTE!** Supported archive file extensions: ZIP, 7Z, ISO.

 **NOTE!** You can use drag and drop as an alternative to the “Add file” or “Add folder” buttons: drag the file or folder and drop it into the files list.

Operations in the file list

If you want to perform actions on a particular file, such as viewing it or deleting it, first need to select it from the list by

making , which shall change to .

#	<input type="checkbox"/>	File type	File name
1	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
2	<input type="checkbox"/>	DICOM	image-00000.dcm
3	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
4	<input type="checkbox"/>	DICOM	image-00000.dcm
5	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
6	<input type="checkbox"/>	DICOM	image-00000.dcm

Figure 30. Marking files one by one

If required to mark all files, select the checkbox in the header of the table column. To unselect all, press the header checkbox again.


#	<input checked="" type="checkbox"/>	File type	File name
1	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
2	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
3	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
4	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
5	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm
6	<input checked="" type="checkbox"/>	DICOM	image-00000.dcm

Figure 31. Marking all files

Same behavior - marking all files - if NON-DICOM or DICOM tab marking fields are selected

NON-DICOM study **1 Study**

To filter out some values:

- with a fixed set of values, a list of values is dropped down in the column header , and select the required value;

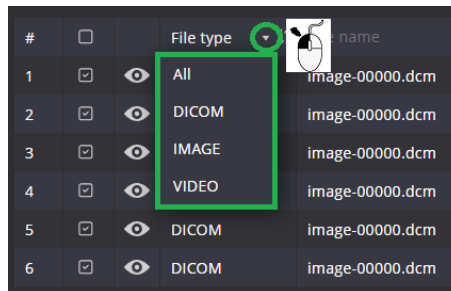


Figure 32. Filtering by selecting a value from a list

- if the column does not contain a list of values, enter the value directly in the column header.

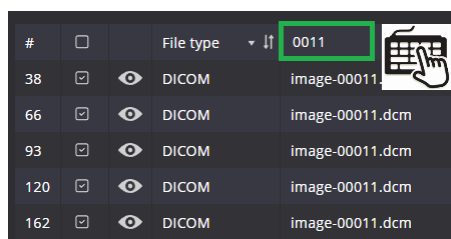


Figure 33. Filtering by entering a value

If there are many files, the system will split them into pages. To go to the next page, select the page number icon, to go to the next or previous page, select Next or Previous.

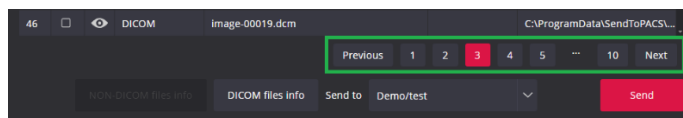



Figure 34. Splitting files into pages

Files can be selected and removed from the list by selecting the file in the list and clicking on the button at the top of the file list. Files are removed from the file list but not from the physical storage.

The “Show info” button  displays the information about the file, data to be used in DICOM file, and file conversion and sending processes logs if the file was attempted to be sent. This is the default set of information.

On the right side of the info panel, the image preview is displayed. The preview zone is empty if fails to get an image from the file or the file does not contain image data, like PDF file or DICOM file without pixel data.

On the left side of the info panel, the text box with the file properties and sending process log is displayed.

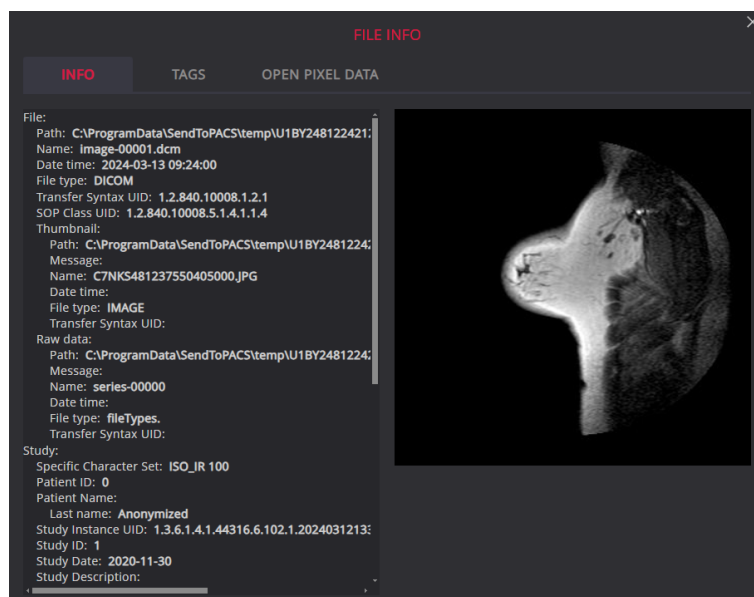


Figure 35. Files list with opened info panel in the main MedDream SendToPACS window

You can see the following information about the file in the file list:

- “File type” – displays one of the allowed types: IMAGE, VIDEO, PDF, or DICOM. If not sent, the file type font has the default color (black). If the user attempts to send files, the *File type* text color indicates the status of the sending process:



NOTE! The files, that were successfully sent, may be automatically removed from the list if configured to be cleaned after sending.

- “File name”, and “Path” – displays the name and location of the physical file, that was selected for sending;
- “Temp type”, and “Temp name” – display the type and name of the temporary files, that were created to support the sending process. The fields are filled with data only for the files that were attempted to send.

It is available TAGS for DICOM files and displays tags of the initial DICOM file.

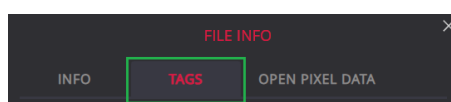


Figure 36. Files DICOM tags

The “Open pixel data” is available for DICOM files. Will try to extract pixel data and open known video, image, PDF file, or the temporary storage folder if the format is unknown.

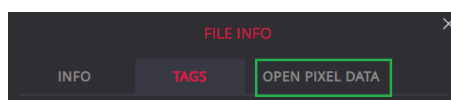





Figure 37. Files Open pixel data

To sort the files list by any column in ascending or descending order: press on the column header  to sort or change the sorting order. The triangle on the right of the column name indicates, that files are sorted according to this column, and the sorting order: pointing up triangle  for triangle in ascending order, and pointing down triangle  for descending order.

The status of the file processing is shown in the column “Status”. Can be filtered by status values.

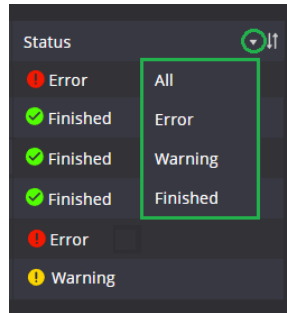






Figure 38. Status of files in the list

To view the file and sending process info click  or the status icon   .

Creating and sending DICOM files using add paths

You can manually add files you want to create and send as a DICOM file. To perform this first make sure that you have found at least one worklist in the Search worklist section. Enter the path you would like to add and click the “Send” button. DICOM file will be created.

Manually add paths

```

{
  "jobType": "CONVERT_TO_DICOM_FORWARD",
  "total": 1,
  "processed": 1,
  "started": "2021-07-05 15:50:29",
  "completed": "2021-07-05 15:50:29",
  "error": "",
  "completedFiles": [
    {
      "path": "C:\test\photo.jpg",
      "message": ""
    }
  ],
  "failedFiles": []
}

```

Figure 39. Add paths to files

Creating and sending DICOM files manually

You can manually send a request and create a DICOM file and send it to PACS server. To create and send DICOM files manually with the worklist which was found in the Search worklist section. Make sure you found at least one worklist, and add the file that you want to attach (for example C:\test\test.pdf). You can automatically create a JSON structure by clicking “Fill with PACS+Search worklist results+paths” button. Once you have JSON structure ready click “Manually Send” button.

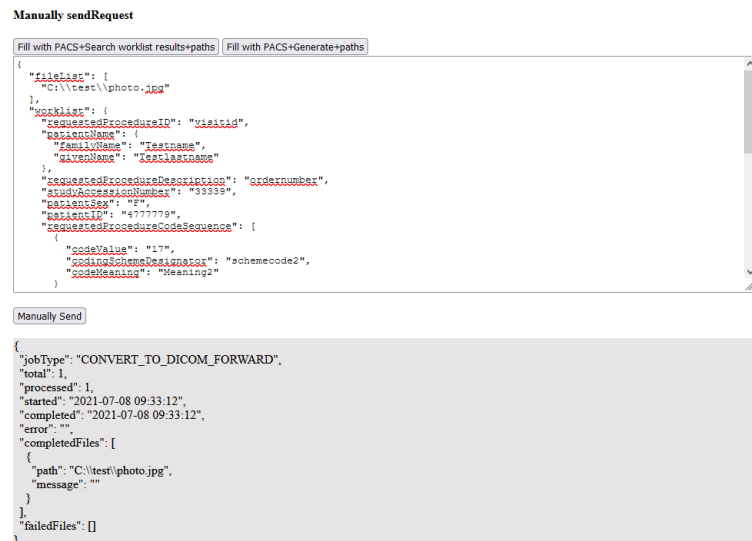


Figure 40. Manually send request with worklist

Another option is to create and send DICOM files to PACS server without a worklist. Make sure you add the file that you want to attach (for example C:\test\test.pdf). You can automatically create a JSON structure by clicking “Fill with PACS+Generate+paths” button. Once you have JSON structure ready click “Manually Send” button.

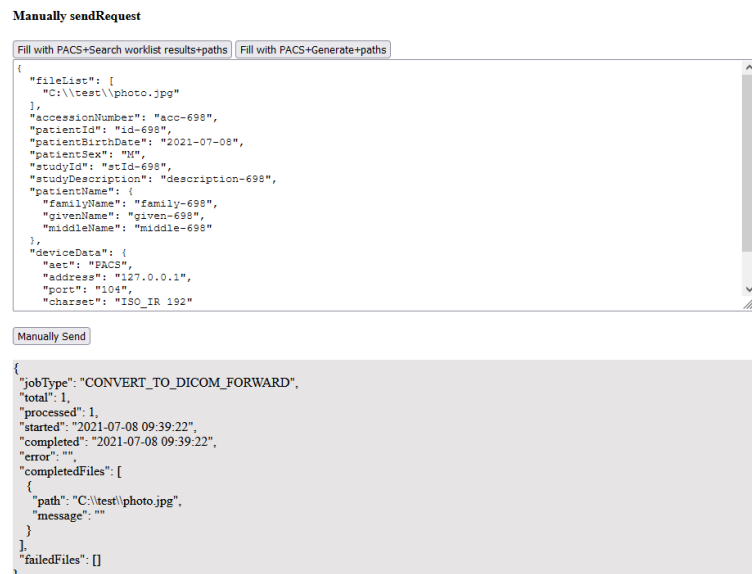


Figure 41. Manually send request without worklist

If send was successful you will see a new DICOM file in your PACS.

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