

# HTML 5 ZERO-FOOTPRINT **DICOM VIEWER**

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# QUICK START GUIDE

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## **Windows x64 MedDream PACS Premium**

Document version 4.00

This guide describes the basics of installing and configuring web-based DICOM Viewer for PACS server. More information is provided in the full Install Manual, download its latest version: [Install Manual](#).

**IHE** XDS-I.b  
**PASSED**

**FDA** K222320  
CLEARED 510(k)

**CE** 0197  
Class IIb certified

## ABOUT SOFTWARE

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This guide describes MedDream DICOM Viewer deployment on Windows x64. MedDream PACS Premium software package contains all the software required to run MedDream Viewer on your server.

The Viewer can be integrated into HIS/RIS/EHR/EMR, Telemedicine, Patient Portals, National Systems, CAD and AI algorithms. MedDream Universal Enterprise Viewer can be installed on premises, in any virtual environment or on cloud.

MedDream is designed to aid medical professionals in day-to-day decision-making process. MedDream is a cost effective certified solution perfect for software vendors, integrators, OEM's and national system providers.

## PREREQUISITES

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Check [User Manual](#) section: “MedDream viewing functionalities minimal hardware requirements”.

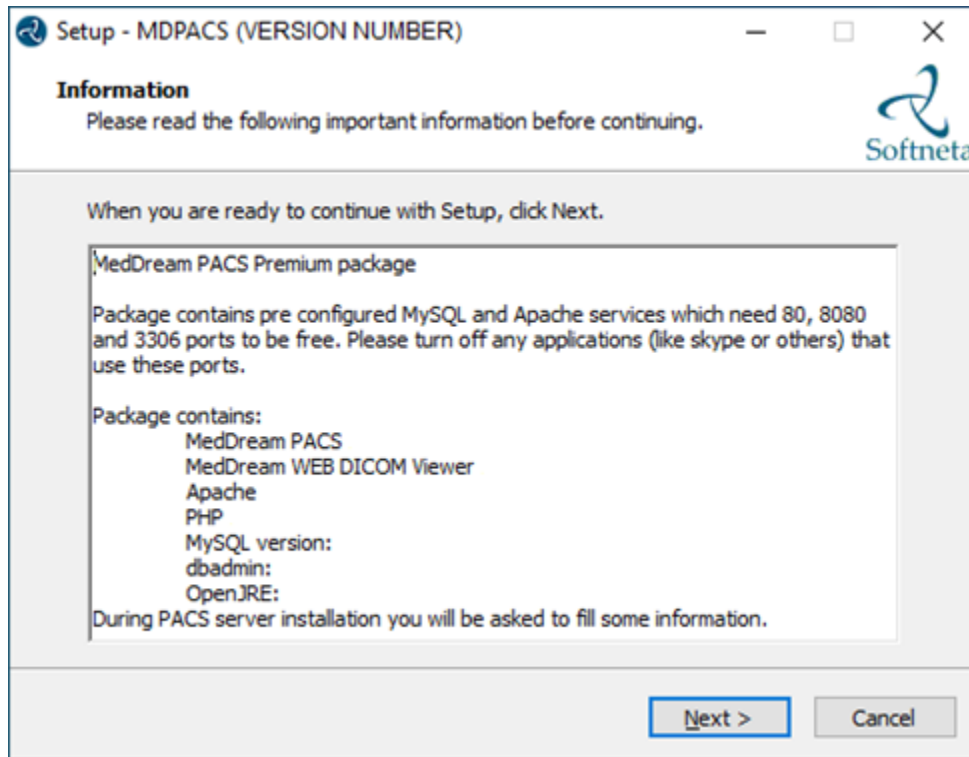
## INSTALLATION FOR THE FIRST TIME

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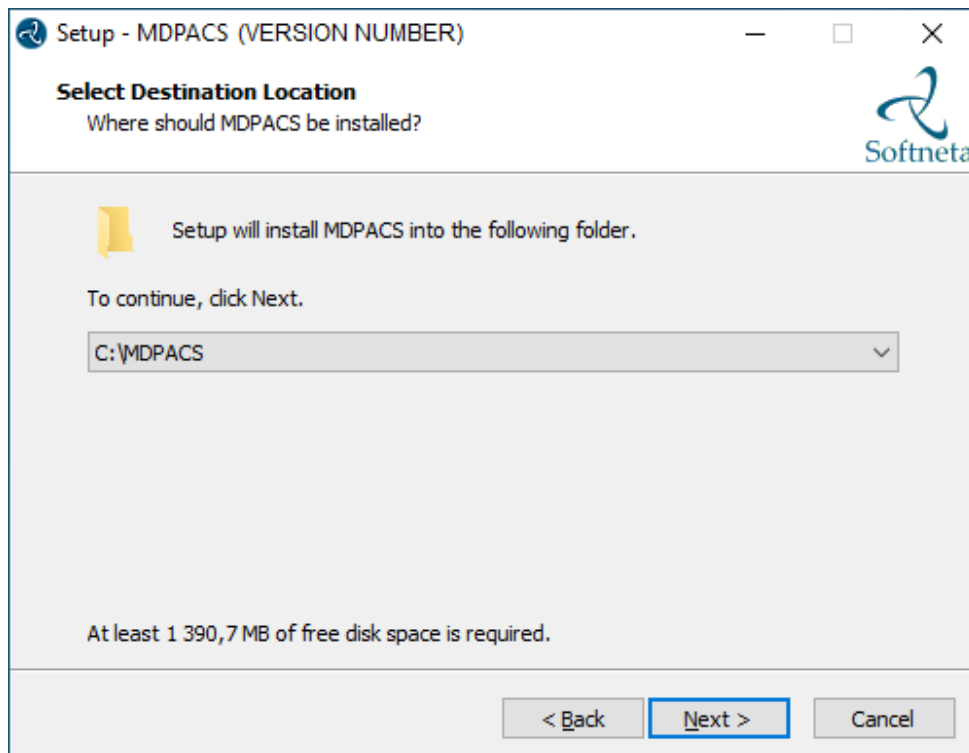
**1**

**Install all in one package (MedDream DICOM Viewer, MedDream PACS, MySQL database and additional programs):**

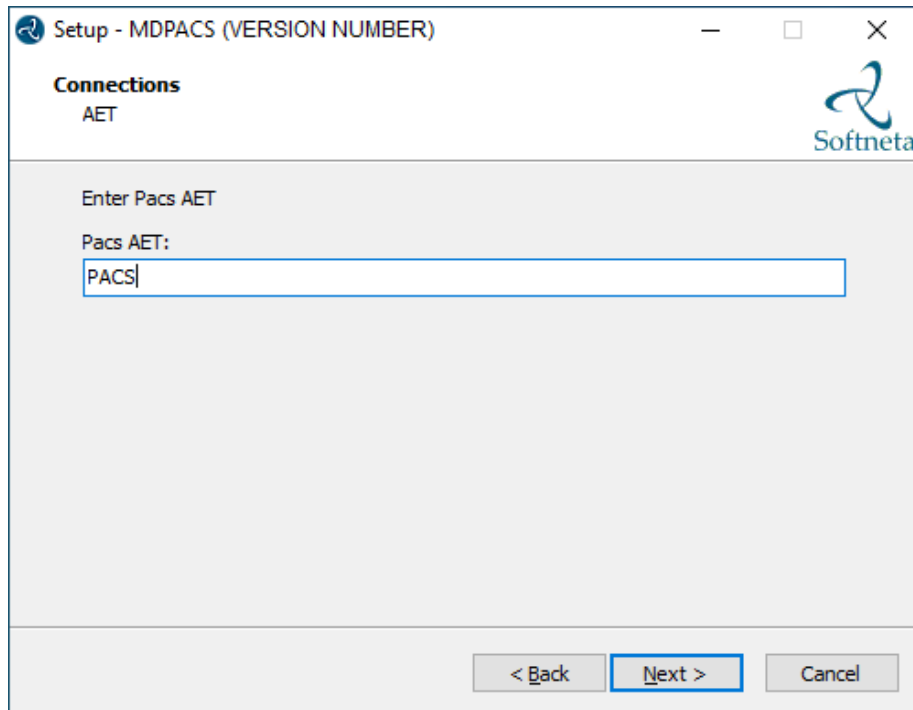
- **Download** the latest Windows version of the package from the Softneta website: <https://www.softneta.com/files/meddreampacs/premium/LATEST/MedDream-PACS-Premium.exe>
- **Execute MedDream-PACS-Premium.exe** and click **Next >** button:



- Choose **C:\MDPACS** and click **Next >** button:



- **Enter** Pacs AET, such as PACS. Remember it, you will need to specify the exact same AET name in the PACS configuration. Then click **Next >** button:



Setup - MDPACS (VERSION NUMBER)

**Connections**  
AET

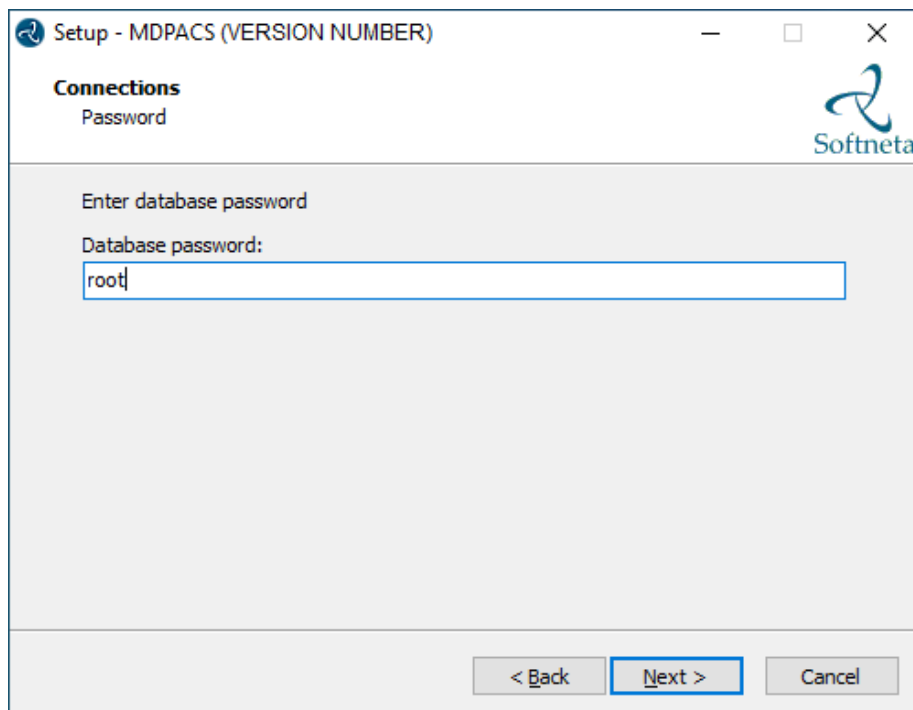
Enter Pacs AET

Pacs AET:  
PACS

< Back   Next >   Cancel

**TIP:** Pacs AET will be saved in the C:\MDPACS\MedDream\application.properties file.

- **Enter** database password. Remember it. Then click **Next >** button:



Setup - MDPACS (VERSION NUMBER)

**Connections**  
Password

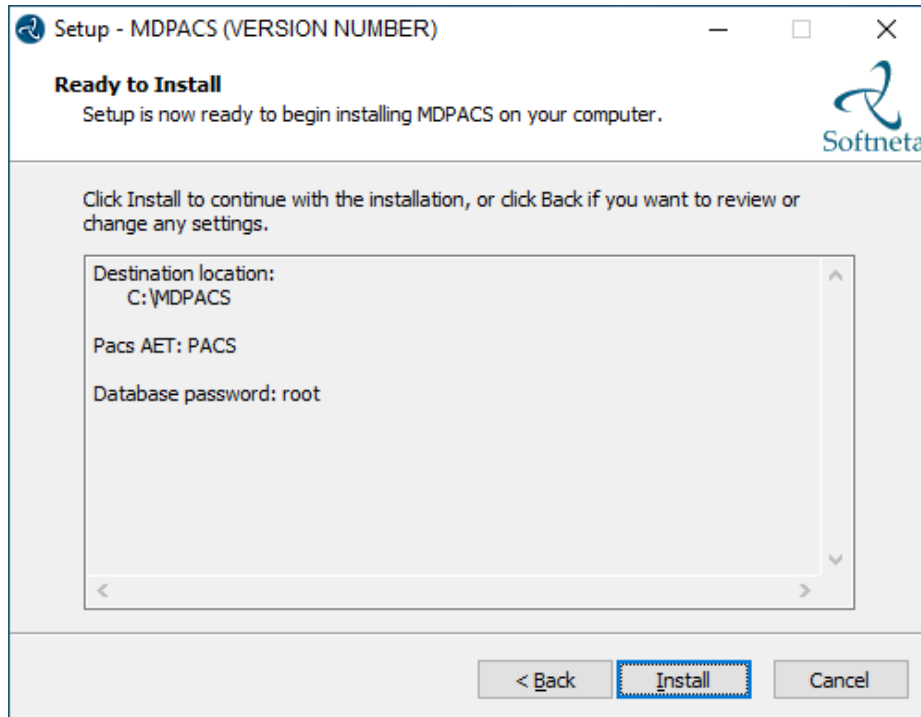
Enter database password

Database password:  
root

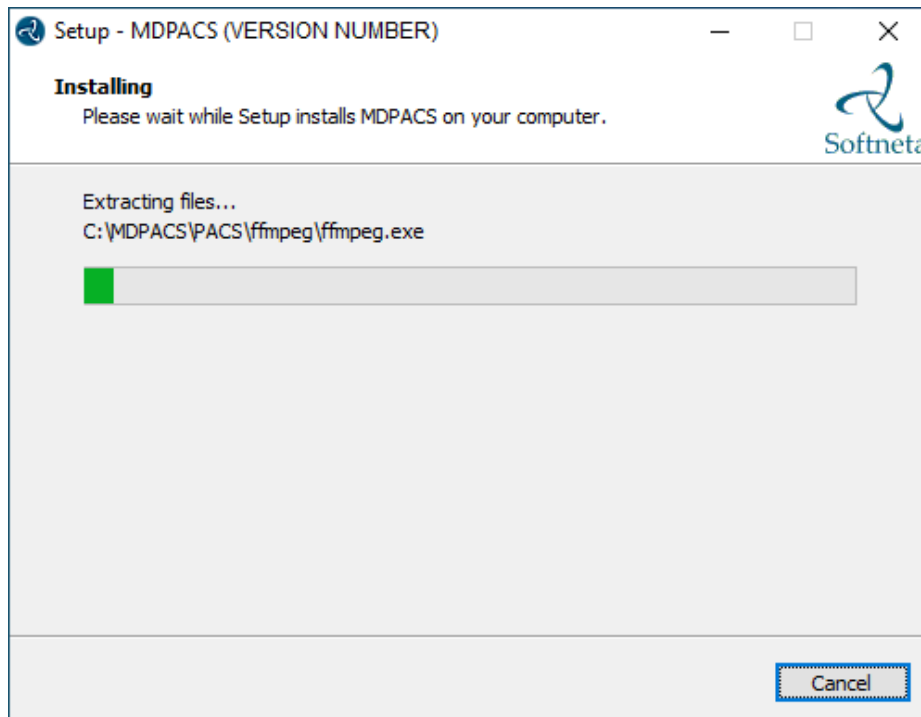
< Back   Next >   Cancel

**TIP:** Database password will be saved in the C:\MDPACS\MedDream\application.properties file.

- Click **Install** to continue with the installation:



- A progress bar will be displayed during the MedDream Viewer installation process:



- Once MedDream Viewer is installed, the MedDream PACS configuration begins. **Follow the steps below to install and configure the MedDream PACS server.**

- **DICOM part:**
  - **Change** “Application Entity Title” to the same AET you specified before, e.g., PACS.
  - **Change** “Server Port” to e.g., 104.
- **Database part:**
  - **Change** “Database Name” to e.g., PACS.
  - **Enter** “Password” for database user “dicom”.
- **Storage part.**
  - **Specify** the storage location for the DICOM files, e.g., C:\MDPACS\DICOM.
- **Click Install** button.

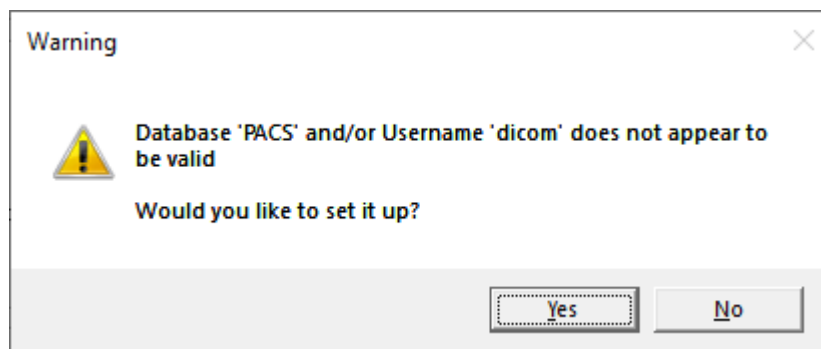
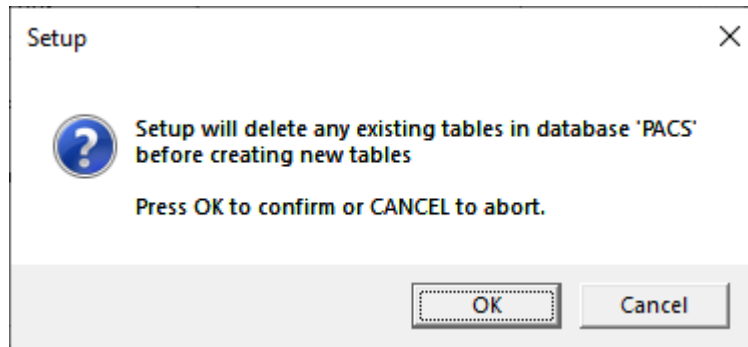
The screenshot shows the 'MedDream PACS Premium Installer' window with the following configuration details:

- DICOM section:**
  - Application Entity Title: PACS
  - Server Port: 104
  - Log File Directory: C:\MDPACS\PACS\log
  - Enable TLS/SSL Option
  - TLS Port: 5678
  - SSL Certificate: C:\MDPACS\PACS\PacsOne.crt (with Browse... button)
  - SSL Private Key: C:\MDPACS\PACS\PacsOne.key (with Browse... button)
- Database section:**
  - Database Host: localhost
  - Database Port: 3306
  - Database Name: PACS
  - Username: dicom
  - Password: \*\*\*\*\*
- Storage section:**
  - Default Archive Directory: C:\MDPACS\DICOM
  - Archive Format: DicomPart10 (Default) (dropdown menu)
- HL-7 Message Listener Option section:**
  - Enable HL-7 Message Listener Option
  - HL-7 Listener Port: 7777
  - HL-7 Message Persistence: 90 Days

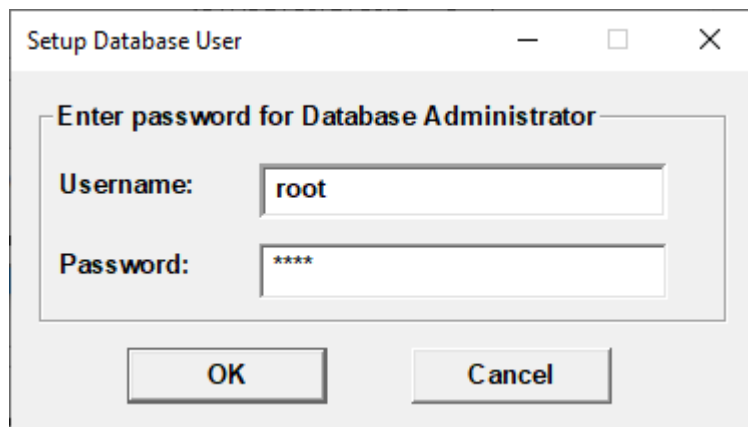
At the bottom of the window, there are four buttons: Upgrade, Install, Uninstall, and Cancel.

- You will be notified by two messages. It is recommended to press **<OK>** button in the first message

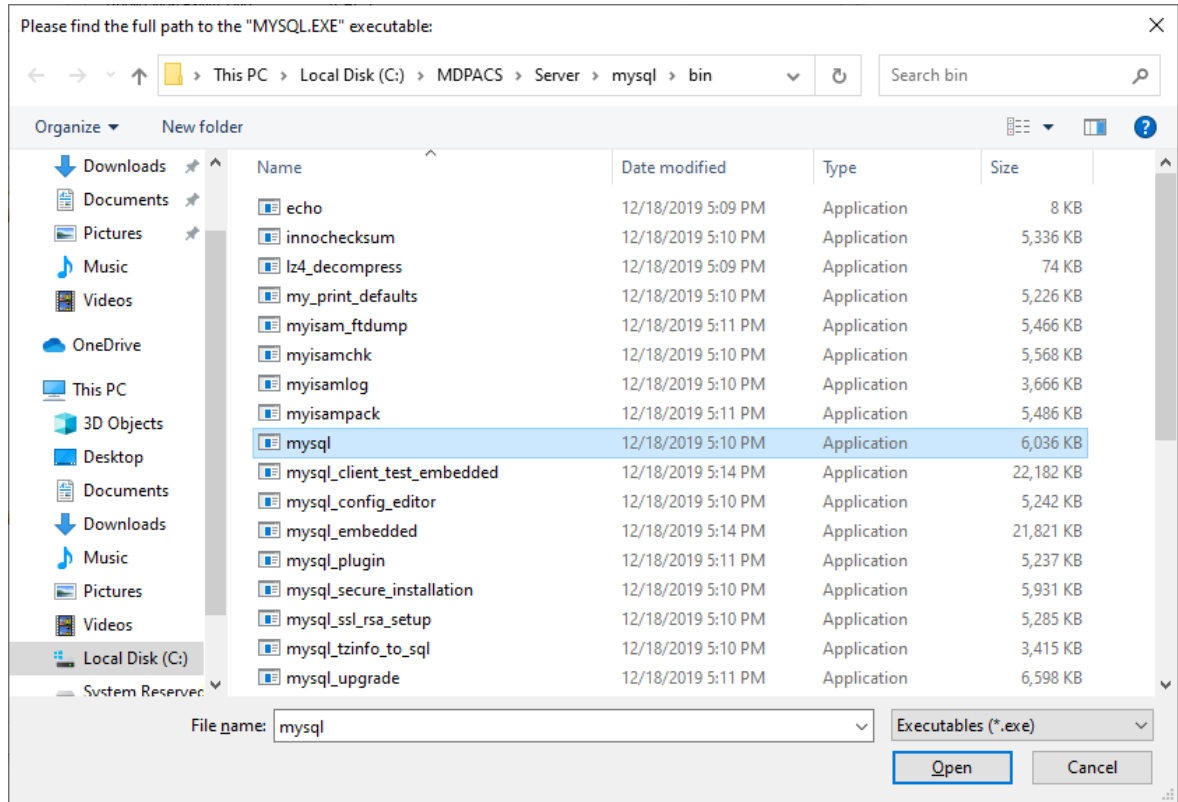
and **<Yes>** in the second:



- **Enter** database password for “root” user. Enter **the same password** you specified in the MedDream Viewer installation.

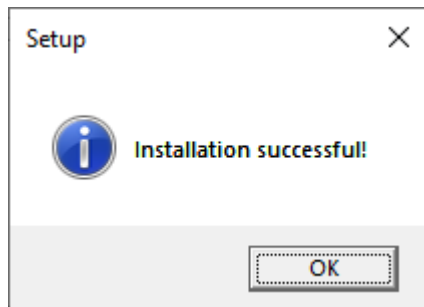


- **Find** the full path to the **“mysql.exe”**. Usually, you can find it here: **C:\MDPACS\Server\mysql\bin\mysql.exe**. **Select** the file and then click **Open**:



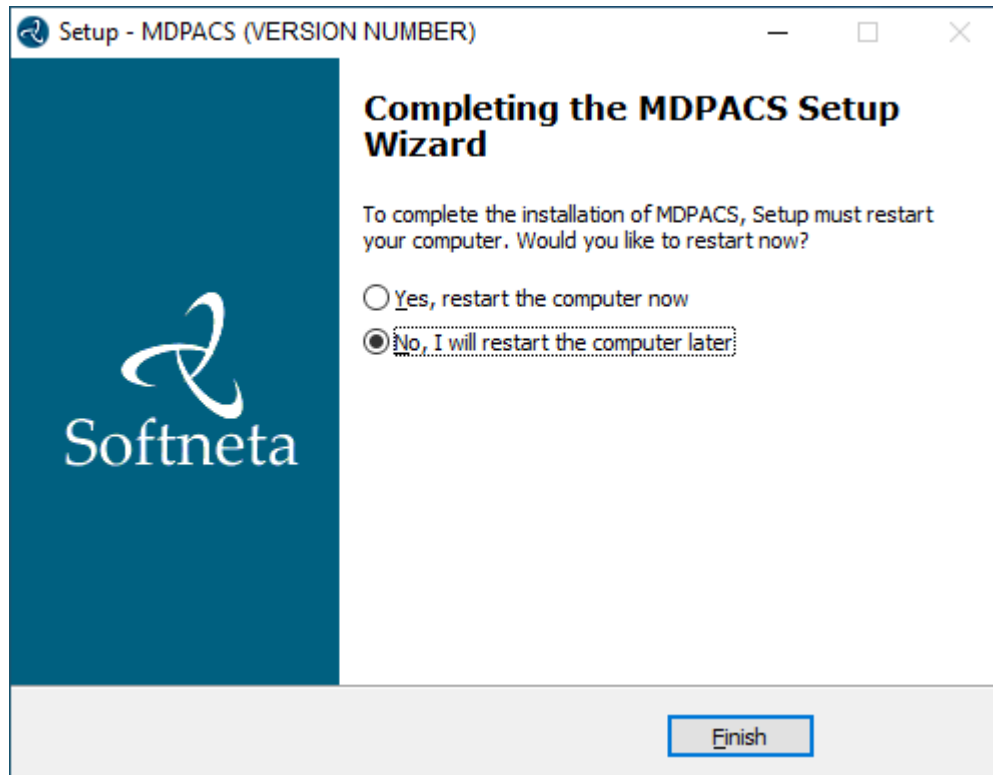
**TIP:** You can have several MySQL databases installed on your computer, choose correct database.

- When the MedDream PACS installation is complete, a success message is displayed.





- MedDream PACS Premium installation is complete. Click **Finish** button.



## CONFIGURATION

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- 1 MedDream Viewer settings.** You can add additional MedDream settings or change existing ones in the C:\MDPACS\MedDream\application.properties file. **The minimum MedDream DICOM Viewer configuration** for opening studies stored on the MedDream PACS Premium server is given below:

```
#server.port=80
server.servlet.session.timeout=60
#server.compression.enabled=true
server.compression.mime-types=application/octet-stream

#com.softneta.settings.fileLocation=${com.softneta.meddream.configRoot}/sys/settings
#com.softneta.thumbnails.ffMpegExecutable=${com.softneta.meddream.configRoot}/sys/ffmpeg/ffmpeg.exe

authentication.manager.username=admin
authentication.manager.password=
```

```
#management.server.port=8081
#management.server.address=127.0.0.1
#com.softneta.meddream.maxAttemptsToConnect=5
#com.softneta.meddream.timeoutSeconds=60

#com.softneta.meddream.searchPatientHistoryInAllStorages=false

spring.profiles.include=auth-inmemory
authentication.inmemory.users[0].userName=demo
authentication.inmemory.users[0].password=demo
authorization.users[0].userName=demo
authorization.users[0].role=ADMIN,SEARCH,PATIENT_HISTORY,UPLOAD_DICOM_LIBRARY,EXPORT_ISO,
EXPORT_ARCH,FORWARD,REPORT_UPLOAD,DOCUMENT_VIEW,FREE_DRAW_EDIT,SMART_DRAW_EDIT,CLEAR_CACH
E,USER_SETTINGS
#authorization.users[0].accessibleStorages=PacsOneQR,d4c5Dicomweb

#spring.profiles.include=auth-pacsone
#authentication.database.databaseName=DB_NAME
#authentication.database.jdbcUrl=jdbc:mysql://DB_HOST:DB_PORT/${authentication.database.d
atabaseName}
#authorization.defaultLoginPermissions=SEARCH,PATIENT_HISTORY,UPLOAD_DICOM_LIBRARY,DOCUME
NT_VIEW,BOUNDING_BOX_VIEW,FREE_DRAW_VIEW,SMART_DRAW_VIEW,CLEAR_CACHE,USER_SETTINGS
#authorization.users[0].userName=NAME1
#authorization.users[0].role=ANONYMOUS_VIEW
#authorization.users[0].accessibleStorages=PacsOneLocal

#spring.profiles.include=auth-his,auth-inmemory
#spring.profiles.include=auth-his
#authentication.his.token-service-address=http://127.0.0.1:8088/v3/validate
#authentication.his.valid-his-params=study,storage
#authentication.his.valid-his-params=accnum
#authentication.his.valid-his-params[0]=patient,accnum
#authentication.his.valid-his-params=patient
#authentication.his.valid-his-params=file
#authentication.his.useSameSession=true
#authentication.his.patient-integration-open-studies=false
```

```
logging.level.ROOT=ERROR
#logging.level.com.softneta=INFO
logging.file.name=meddream

com.softneta.dicom.library.upload.anonymizeLevel=1

#com.softneta.meddream.dcmsnd.bind=MEDDREAM
#com.softneta.meddream.dcmsnd.dicomSendThreadCount=2
#com.softneta.meddream.dcmsnd.forwardingMethod=plugin
#com.softneta.meddream.dcmsnd.annotationsFromOrigAet=true

#com.softneta.dicomStoreService.localAETitle=MEDDREAM
#com.softneta.dicomStoreService.port=11116
com.softneta.dicomStoreService.address=127.0.0.1
#com.softneta.dicomStoreService.saveDirectory=${com.softneta.meddream.tempDir}/STORE
com.softneta.dicomStoreService.acceptAETitles=SendersTitle,AnotherTitle
#com.softneta.dicom-store-service.allowedIps=192.168.111.87,192.168.111.88,192.168.111.91
#com.softneta.dicomStoreService.prepareReceivedFile=true
#com.softneta.dicomStoreService.prepareForTheseLocalTitles=

#com.softneta.preparation.thumbnailCreationModalities=CT,PT,MR
#com.softneta.preparation.thumbnailCreation=all
#com.softneta.preparation.enabled=true
#com.softneta.preparation.cachePreparationFiles=false
#com.softneta.preparation.compressPixelsBeforeSave=false
#com.softneta.preparation.persistCache=true
#com.softneta.preparation.cacheTimeToIdleSeconds=86400

com.softneta.temp-cleaner.cleanRateMilliSec=1800000
#com.softneta.temp-cleaner.cron=0 30 0 * * *
#com.softneta.temp-cleaner.monitoringFrequencyMilliSec=60000
#com.softneta.temp-cleaner.freeSpaceThresholdPct=90

com.softneta.temp-cleaner.tempItems[0].directory=${com.softneta.preparation.cacheDir}
```

```
com.softneta.temp-cleaner.tempItems[0].pattern=*
com.softneta.temp-cleaner.tempItems[0].olderThanSec=604800

com.softneta.temp-cleaner.tempItems[1].directory=${com.softneta.meddream.tempDir}
com.softneta.temp-cleaner.tempItems[1].pattern=*_archive
com.softneta.temp-cleaner.tempItems[1].olderThanSec=7200
com.softneta.temp-cleaner.tempItems[1].matchAnyDepth=false

com.softneta.temp-cleaner.tempItems[2].directory=${com.softneta.meddream.tempDir}
com.softneta.temp-cleaner.tempItems[2].pattern=*_export
com.softneta.temp-cleaner.tempItems[2].olderThanSec=21600
com.softneta.temp-cleaner.tempItems[2].matchAnyDepth=false

com.softneta.temp-cleaner.tempItems[3].directory=${com.softneta.meddream.tempDir}
com.softneta.temp-cleaner.tempItems[3].pattern=forward_*.dcm
com.softneta.temp-cleaner.tempItems[3].olderThanSec=7200
com.softneta.temp-cleaner.tempItems[3].matchAnyDepth=false

com.softneta.temp-cleaner.tempItems[4].directory=${com.softneta.video.convertedDir}
com.softneta.temp-cleaner.tempItems[4].pattern=*
com.softneta.temp-cleaner.tempItems[4].olderThanSec=3600

com.softneta.temp-
cleaner.tempItems[5].directory=${com.softneta.dicom.library.upload.tempDir}
com.softneta.temp-cleaner.tempItems[5].pattern=*
com.softneta.temp-cleaner.tempItems[5].olderThanSec=86400

com.softneta.temp-
cleaner.tempItems[6].directory=${com.softneta.dicomStoreService.saveDirectory}
com.softneta.temp-cleaner.tempItems[6].pattern=*
com.softneta.temp-cleaner.tempItems[6].olderThanSec=86400

#com.softneta.audit.serverHostname=192.168.1.123
#com.softneta.audit.serverPort=6514
com.softneta.audit.useTls=false
```

```
com.softneta.audit.trustStore=file:///c:/tmp/nxlog/client/cacerts.jks
com.softneta.audit.trustStorePassword={password}
com.softneta.audit.keyStore=file:///c:/tmp/nxlog/client/cacerts.jks
com.softneta.audit.keyStorePassword={password}

spring.batch.job.maxFailedJobRestarts=10
com.softneta.meddream.enabledColorPalettes=HOT_IRON,PET,HOT_METAL_BLUE,PET_20_STEP,RAINBOW
#com.softneta.meddream.toolbarButtonsOrderingEnabled=false
#com.softneta.meddream.http.brandingCacheMaxAgeSec=0
#com.softneta.cache.studyStructureSec=300
#com.softneta.dicomParser.useJdtLookupDDict=false

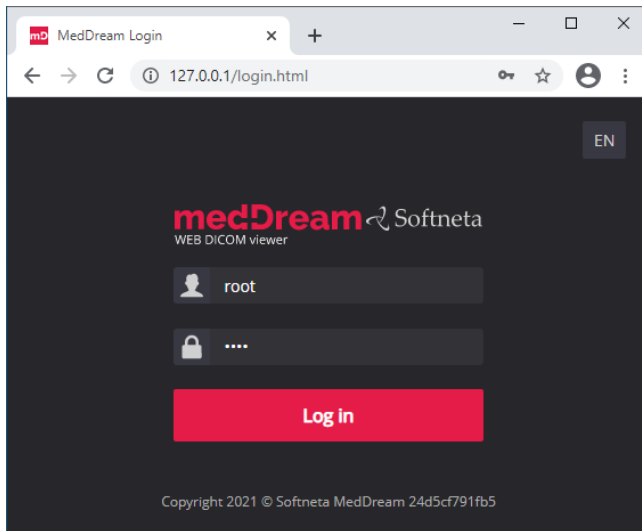
com.softneta.meddream.pacs.configurations[0].type=PacsOne
com.softneta.meddream.pacs.configurations[0].id=PacsOneLocal
#com.softneta.meddream.pacs.configurations[0].forwardApiEnabled=false
#com.softneta.meddream.pacs.configurations[0].eventApiEnabled=false
com.softneta.meddream.pacs.configurations[0].url=jdbc:mysql://127.0.0.1:3306/PACS1
#com.softneta.meddream.pacs.configurations[0].url=jdbc:postgresql://127.0.0.1:5432/PACS1
com.softneta.meddream.pacs.configurations[0].username={Username}
com.softneta.meddream.pacs.configurations[0].password={Password}
#com.softneta.meddream.pacs.configurations[0].mappedStorageLocation=C://PacsStorage//Studies=Z://Studies1|E://DICOM/=Z://Studies2
#com.softneta.meddream.pacs.configurations[0].dicomCacheDirectory=${com.softneta.meddream.tempDir}/dcm/aws_s3_1
#com.softneta.meddream.pacs.configurations[0].awsS3ConnectionInfoCacheTimeInSec=600
com.softneta.meddream.pacs.configurations[0].useModalityAggregation=true
#com.softneta.meddream.pacs.configurations[0].strictUserAetIsEnabled=true
#com.softneta.meddream.pacs.configurations[0].storeScpAet=PACSONE
#com.softneta.meddream.pacs.configurations[0].storeScpIp=127.0.0.1
#com.softneta.meddream.pacs.configurations[0].storeScpPort=104
#com.softneta.meddream.pacs.configurations[0].storeScuAet=MEDDREAM2
```

**NOTE:** In the C:\MDPACS\MedDream\ApTemplates you can find examples of MedDream Viewer configurations with explanations. All MedDream settings are stored in the application.SAMPLE.properties file.

## VERIFICATION

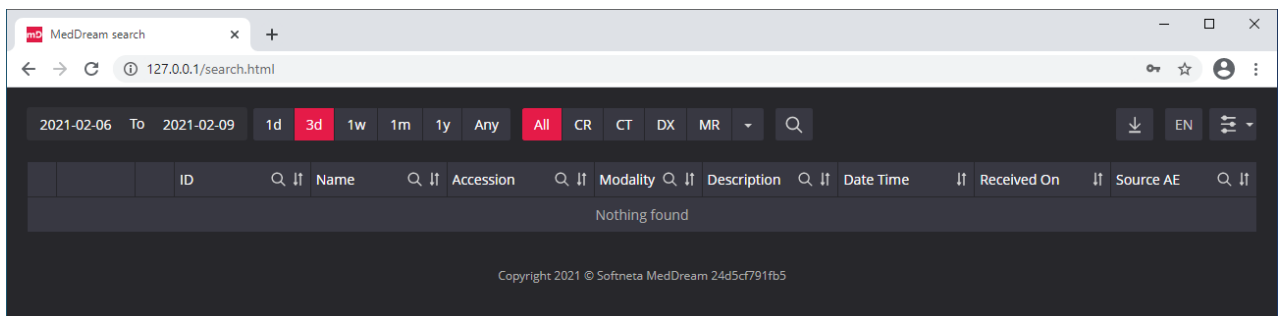
**1** Open a browser and enter the MedDream URL <http://127.0.0.1/> in the address bar.

**2** In the login window, enter the username “root” and the password of this user. Press **Log in** button:



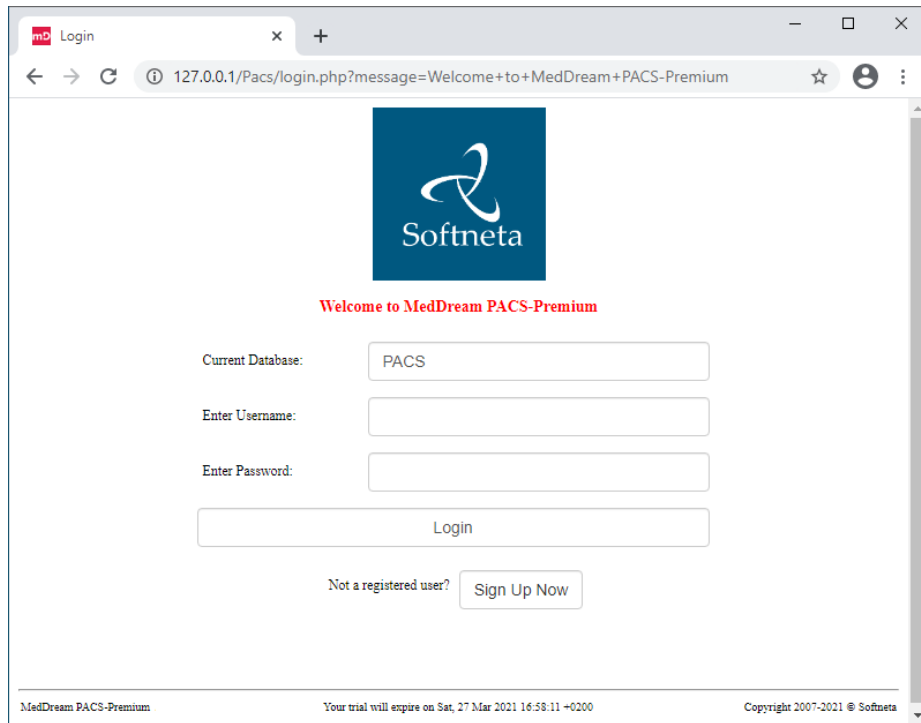
**TIP:** If you can't connect, restart MedDream service in Windows services (run in cmd line: services.msc and restart MedDream service).

**3** If you did not upload the studies using the MedDream PACS user interface, you will see an empty list of studies:

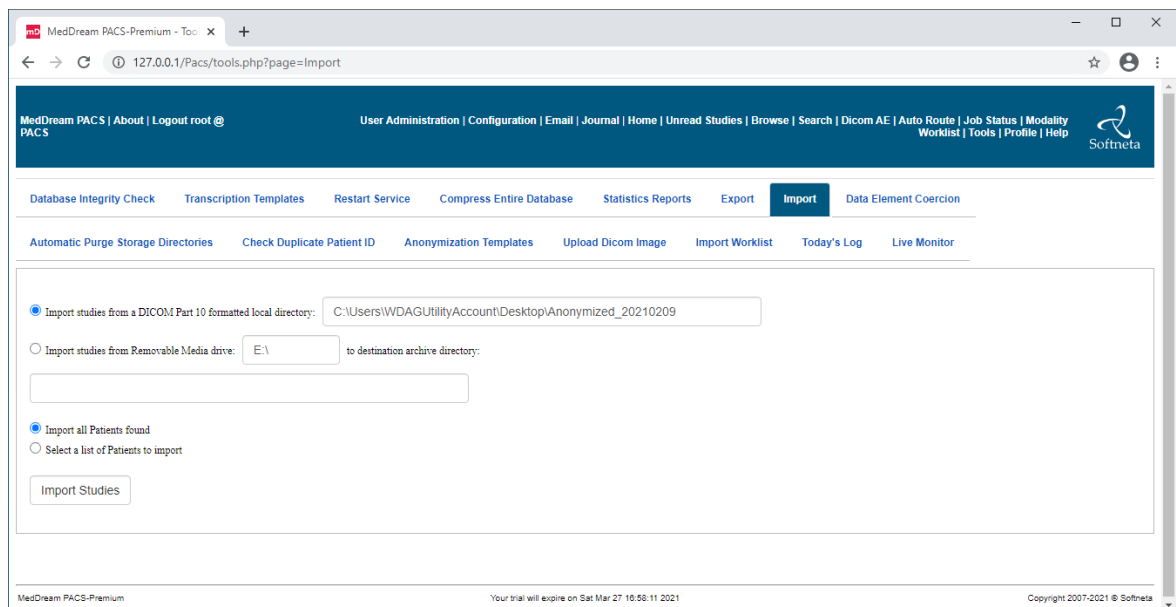


**4** Upload studies to the MedDream PACS server, follow these steps:

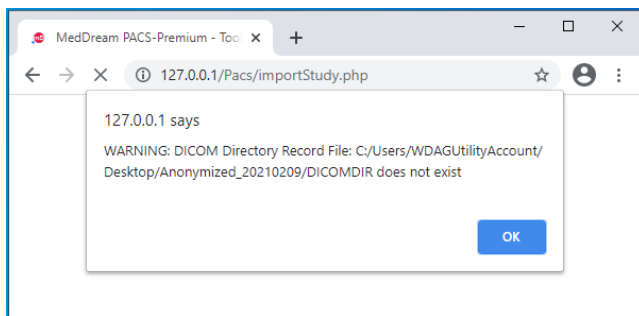
- **Open** a browser and **enter** the MedDream PACS URL <http://127.0.0.1/Pacs> (P must be a capital letter). **Enter** your login credentials and press **<Login>** button:



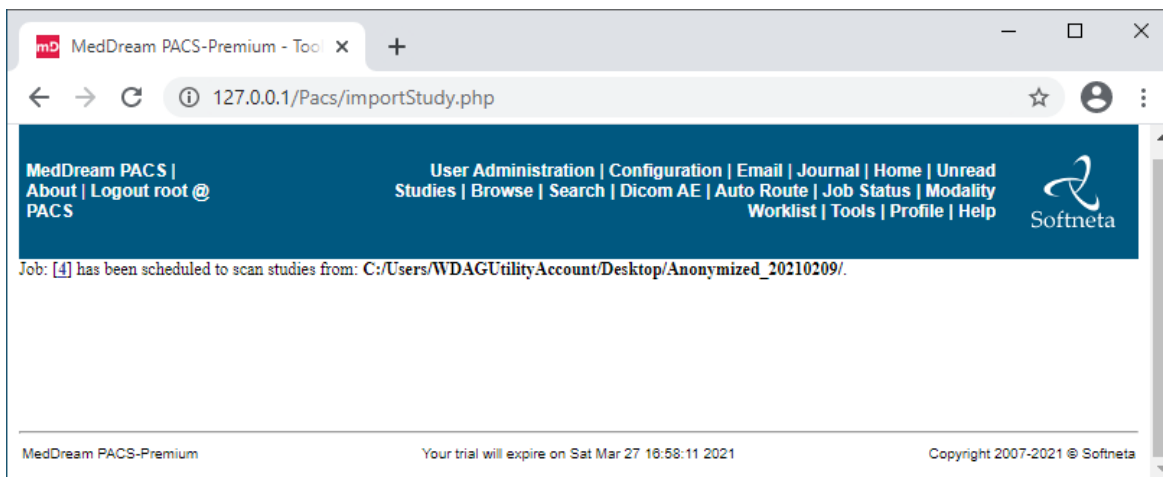
- **Click “Tools”** menu. DICOM images can be uploaded to the server by importing a directory with DICOM files. **Click “Import”** submenu and **enter** the full path to the local directory with files. Press **<Import Studies>** button.



- Press **<OK>** button in the warning message:



- **Click on the link with job number:**





- **Review jobs.** In the “My Submitted Jobs” table you can verify if the import was successful and how many files were imported to the server:

The screenshot shows the MedDream PACS interface. At the top, there is a navigation bar with links like 'User Administration', 'Configuration', 'Email', 'Journal', 'Home', 'Unread Studies', 'Browse', 'Search', 'Dicom AE', 'Auto Route', 'Job Status', 'Modality Worklist', 'Tools', 'Profile', and 'Help'. Below this, the 'My Submitted Jobs' section is active, displaying a table with one job entry. The table has columns for ID, Username, AE Title, Type, Class, Universally Unique ID (UUID), Schedule, Priority, Submit Time, Start Time, Finish Time, Status, Retries, Details, Retry Interval, and N/A. The job entry shows ID 3, Username root, AE Title N/A, Type import, Class study, UUID 2021-02-10 17:36:41, Schedule Immediately, Priority Medium, Submit Time 2021-02-10 17:36:41, Start Time 2021-02-10 17:36:42, Finish Time 2021-02-10 17:36:47, Status success, Retries 0, Details 2 images imported, and Retry Interval 0. Below the table are 'Check All' and 'Delete' buttons. There are also sections for 'Other User's Jobs' and a footer with trial expiration information.

ID	Username	AE Title	Type	Class	Universally Unique ID (UUID)	Schedule	Priority	Submit Time	Start Time	Finish Time	Status	Retries	Details	Retry Interval	N/A	
<input type="checkbox"/>	3	root	N/A	import	study	2021-02-10 17:36:41	Immediately	Medium	2021-02-10 17:36:41	2021-02-10 17:36:42	2021-02-10 17:36:47	success	0	2 images imported.	0	N/A

**TIP:** Samples of anonymized studies can be downloaded from <https://demo.softneta.com/> (Login → Open the selected study → Click Export → Select the DICOM format and click Export again → Press the Download link).

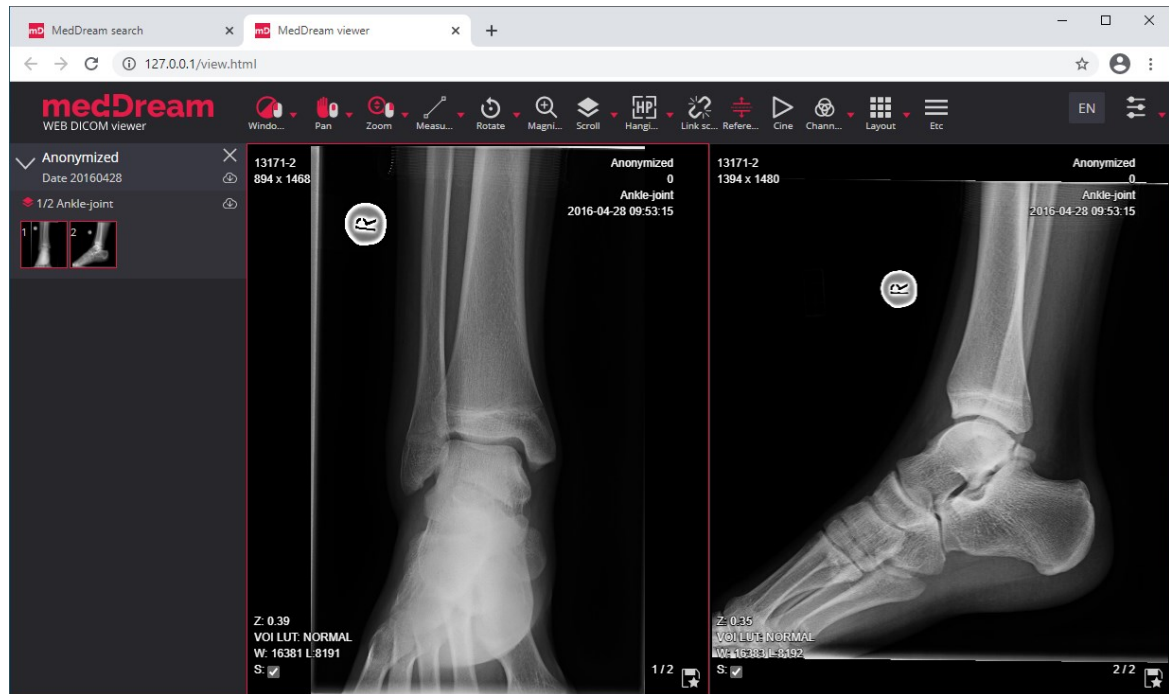
**5 Review uploaded studies in the MedDream Viewer:**

- **Type <http://127.0.0.1/>** into your browser's address bar again. **Login** with user **root** and password you entered and **change** the date range selection by pressing **<Any>** button. Now you can see your studies in the list:

The screenshot shows the MedDream search interface. At the top, there is a search bar with filters for 'To', '1d', '3d', '1w', '1m', '1y', 'Any', 'All', 'CR', 'CT', 'DX', 'MR'. Below the search bar is a table with columns for ID, Name, Accession, Modality, Description, Date Time, Received On, and Source AE. The table shows one study entry with ID 0, Name Anonymized, Accession KP, Modality DX, Description CIURNA, and Date Time 20160428 095315.000. Below the table are 'Previous' and 'Next' buttons.

ID	Name	Accession	Modality	Description	Date Time	Received On	Source AE
0	Anonymized	KP	DX	CIURNA	20160428 095315.000		

- **Click** once on the study with the left mouse button. MedDream Viewer opens the study in a new browser tab:



6

Now you can try and see how powerful and useful this tool is.

## TROUBLESHOOTING

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- ✓ You must restart the MedDream service each time after changes to the application.properties file or if something went wrong. You can restart the service by running in cmd line: `services.msc` -> then selecting MedDream service and clicking Restart on the left.
- ✓ If you can't open the studies, clearing your browser's cache may help. Open a browser and press **CTRL+SHIFT+DEL**. Then select which old data you want to delete and click **Clear** data.
- ✓ MedDream DICOM Viewer logs are stored in the **C:\MDPACS\MedDream\meddream.main.log**. The standard logging level in the application.properties file is set to INFO. If the log contains too little information, you can change the logging level to **DEBUG** by changing the value of the logging.level.com.softneta parameter.

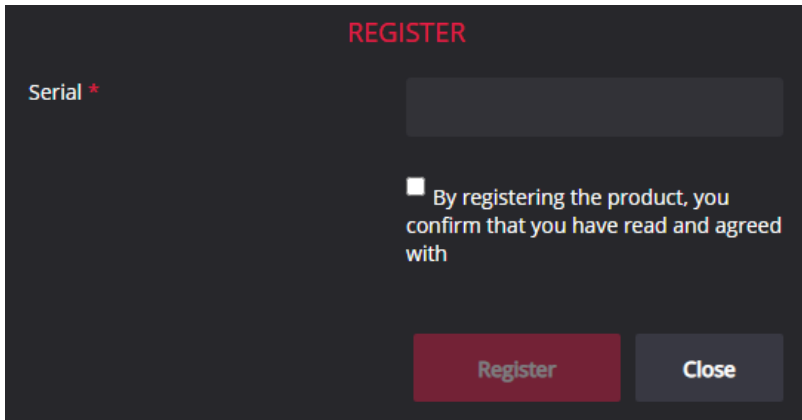
## LICENSE

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MedDream DICOM Viewer licensed under the Commercial License. Please contact [info@softneta.com](mailto:info@softneta.com) to get TRIAL or Commercial license. If you have a License Serial number, follow these instructions:

1

Press **Register** button. The system opens a license registration window:



2

Enter the name of the organization and the license **Serial** number you received.

3

Click on the link **EULA** and read Software License Agreement. After reading, close the window by clicking the **<Close>** button.

4

**Check** the box  to confirm that you accept license agreement.

5

Press **Register** button. The license will be successfully registered.

**NOTE:** If you have any questions about MedDream licenses and prices, please contact our SALES team by e-mail [info@softneta.com](mailto:info@softneta.com) or by phone +370 670 15991.

## HELP AND RESOURCES

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✓

Detailed MedDream installation and configuration instructions are provided in the install manual. You can download it from here: <https://www.softneta.com/files/meddreamviewer/doc/MedDream-DICOM-Viewer-Install-Manual.pdf>

✓

We are constantly improving this product. Get the most out of your MedDream Viewer with updated features and performance.

✓

Download the User manual from <https://www.softneta.com/files/meddreamviewer/doc/MedDream-DICOM-Viewer-User-Manual.pdf> and get more information about this device.

✓

Read short instructions and watch tutorial videos here: <https://www.softneta.com/documentation/user-guide/user-introduction/>

✓

Our great SUPPORT team is always ready to help you. If you have any questions, please write an email to [support@softneta.com](mailto:support@softneta.com) or call +370 672 62795.