

# ConQuest ODBC Guide

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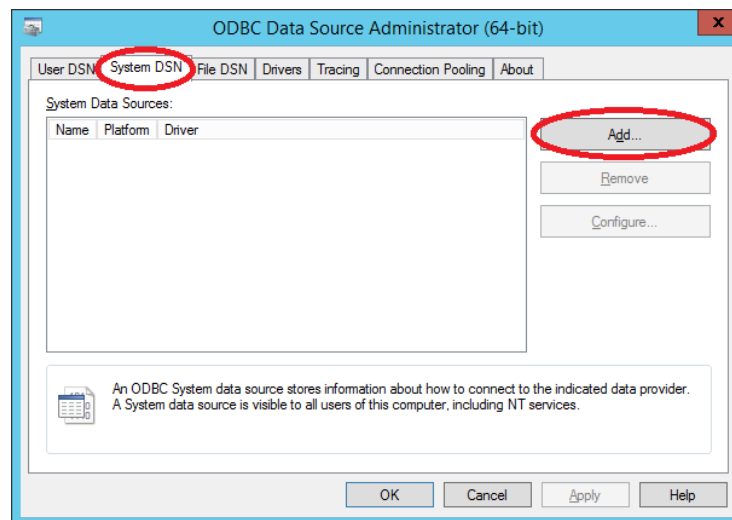
## Introduction

The installation process for the software is divided into two steps. Firstly, the ODBC Data Source has to be created and a connection to an existing Oracle Database has to be established. Secondly, the DICOM server program (ConQuest) has to be setup.

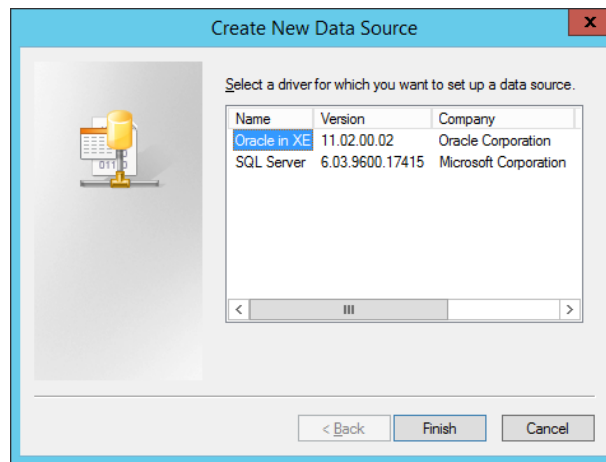
## ODBC setup

Note: This is done on a Virtual Machine on WindowsServer2012.

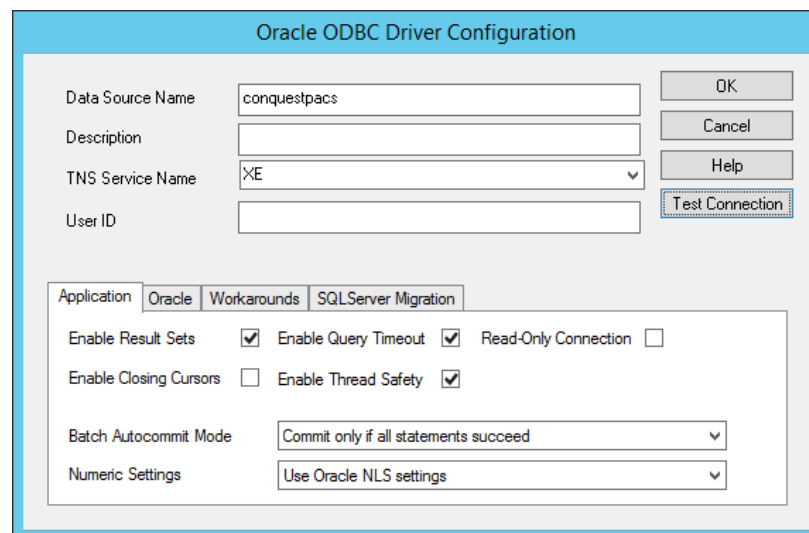
1. Open and run ODBC Data Source Administrator and then select the System DSN tab and Click the add button to add a new System Data Source.



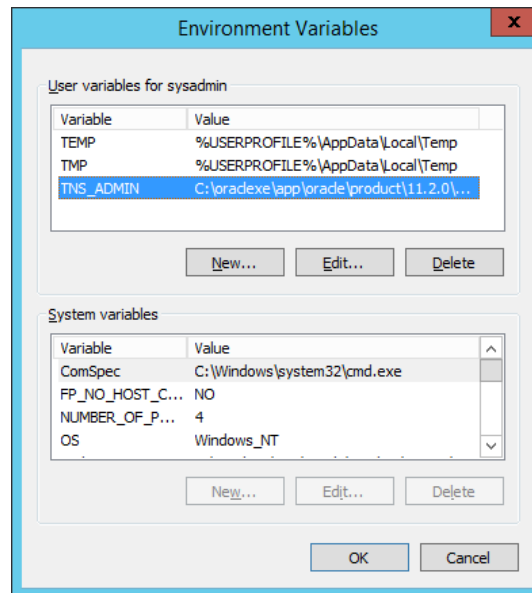
2. Pick the Oracle database that you just created, in this case we are using Oracle XE database.



3. Fill in the Data Source Name field (this field will be the SQLServer name) and select the available TNS Service Name from the drop down menu, you could edit and look into the available TNS Service Name in the tnsnames.ora file in your Oracle database folder.

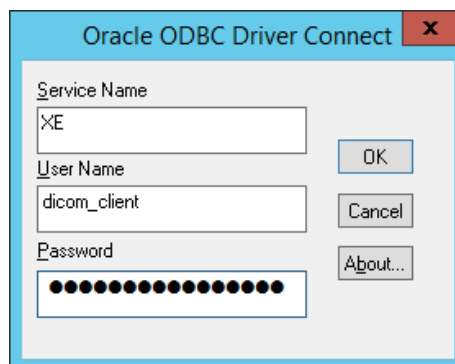


**Note:** If the TNS Service Name does not show up from the drop down menu, search and run “Edit Environment Variables for your account” program on your computer and manually create a new entry or change the existing TNS\_ADMIN path to the tnsnames.ora file.

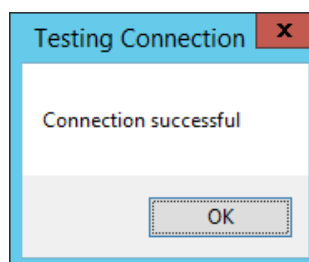


4. To test the ODBC connection to the Oracle database click on the “**Test Connection**” button and fill in the username and password.

**Note:** The username field is the schema name on the oracle database in this case we created a schema named “**dicom\_client**”.

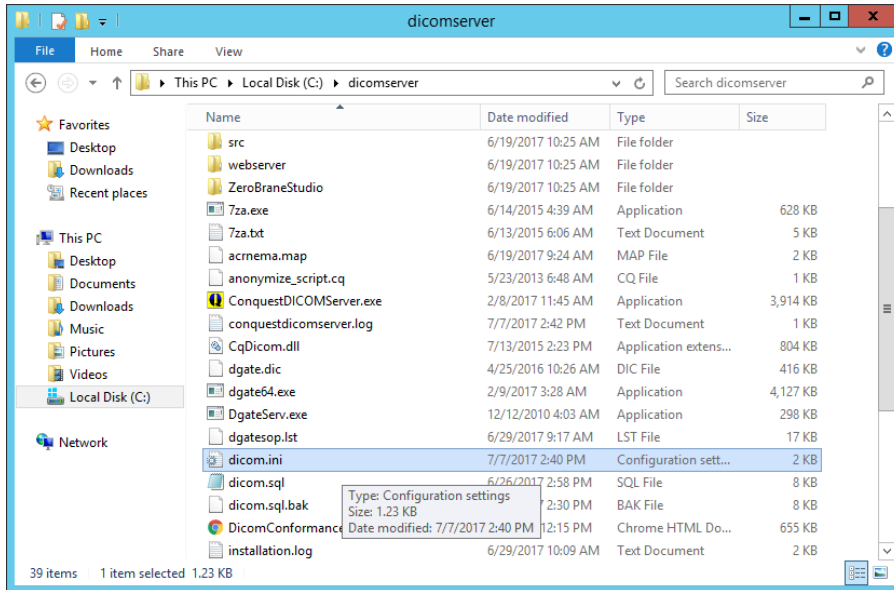


5. Press the OK button and a window should pop up, telling that the connection is successful. Press OK to finalize the new System DSN.

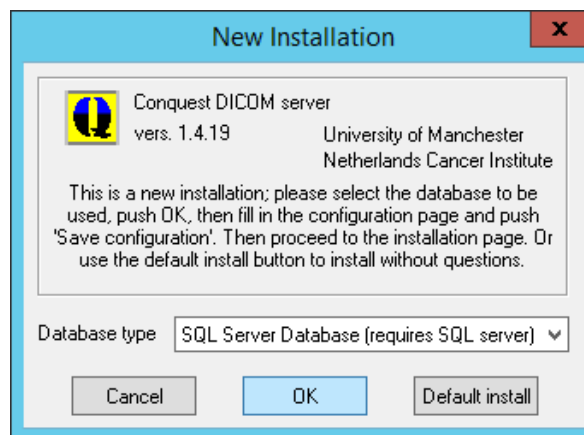


## ConQuest Dicom Server setup

1. Delete the dicom.ini file in the main ConQuest folder if it exists before starting the program (ConquestDICOMServer.exe). This way the setup mode of the program is executed.



2. To setup ConQuest for the first time run “ConquestDICOMServer.exe” and select SQL Server for the Database type.



3. The program has one main window with a subset of tabs. On the configuration tab you can change basic settings of how and where data is stored by ConQuest. Importantly, the Directory path where ConQuest will store the dicom files can be set as shown in the screenshot below. Click the Save configuration button for changes to take effect. Then Close the server.

ConQuest DICOM server 1.4.19 - CONQUESTSRV2

Configuration Installation Maintenance Known DICOM providers Browse database Server status Query / Move

This screen contains essential parameters for operation of the ConQuest DICOM server.

Local unique name of this DICOM server (application entity, AE): CONQUESTSRV2

TCP/IP port to use (other DICOM systems must know this number): 5679

Local disk directory to store DICOM images: c:\dicomserver\data\

Free disk space: 34 gigabyte

☒ Enable JPEG(2000) support

Images on disk are named:

☐ V2 (allows NKI compression)

☒ DCM (standard format)

Images on disk are stored:

☒ Uncompressed

☐ NKI compressed ☐ JPEG or NKI

☐ Lossless JPEG ☐ Lossy JPEG

☐ Lossless JPEGLS ☐ Lossy JPEGLS

☐ Lossless JP2000 ☐ Lossy JP2000

☐ Keep JPEG or Uncompressed

Cleanup disk below (MB) 0

Cleanup nightly below (MB) 0

Below 0 MB, move to: [dropdown]

Save configuration

Make ODBC and database

Restore original configuration

Install server as NT service

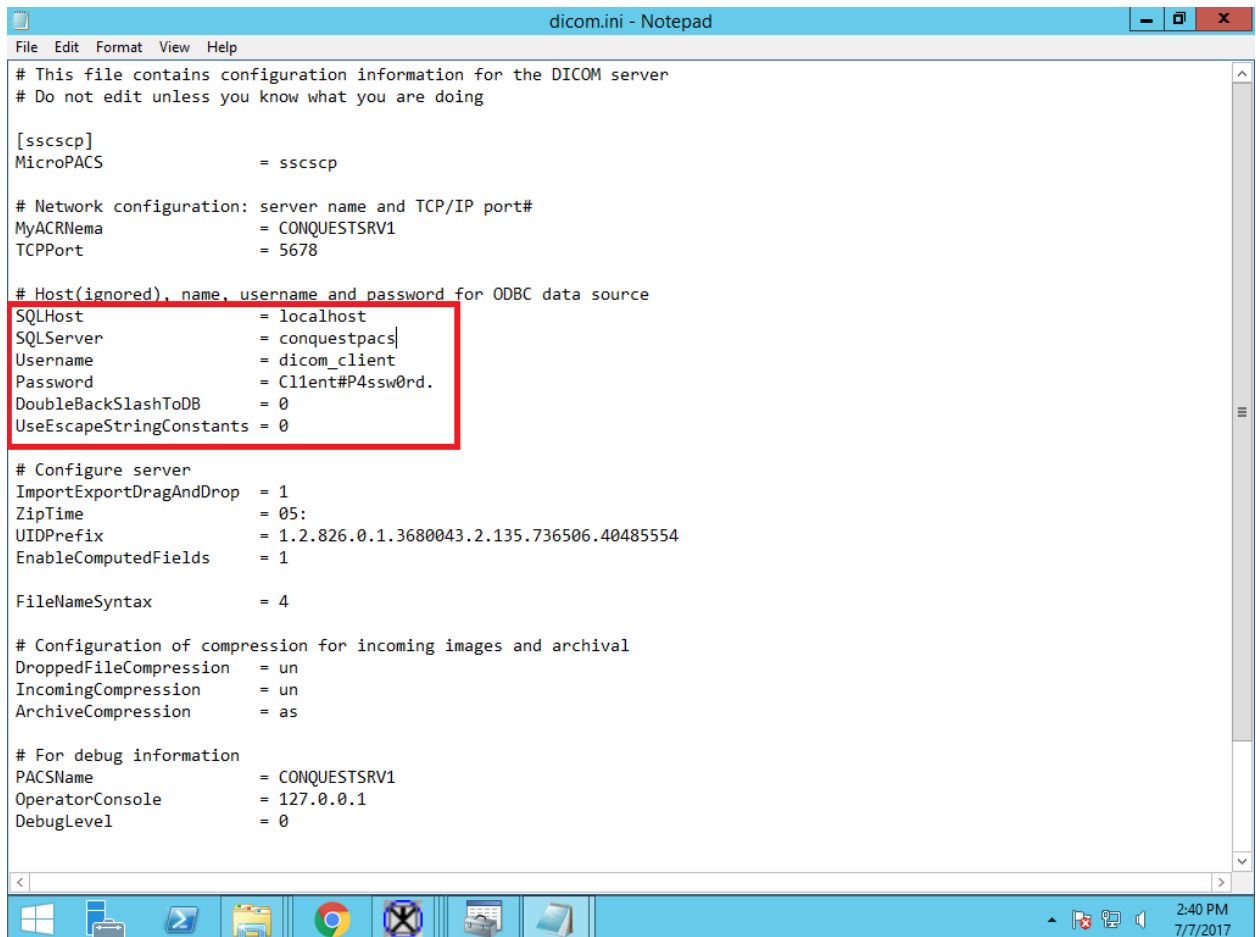
Uninstall server as NT service

Hide the server (as tray icon)

About this server

Close the server

- Next, setup the connection between ConQuest and the database via the ODBC driver. Open the newly created dicom.ini file in the main ConQuest folder. Enter the Oracle odbc datasource that has been created in the **Host** section.



```
# This file contains configuration information for the DICOM server
# Do not edit unless you know what you are doing

[ssccscp]
MicroPACS              = ssccscp

# Network configuration: server name and TCP/IP port#
MyACRNema              = CONQUESTSRV1
TCPPort                = 5678

# Host(ignored), name, username and password for ODBC data source
SQLHost                = localhost
SQLServer              = conquestpacs|
Username               = dicom_client
Password               = C1lent#P4ssw0rd.
DoubleBackSlashToDB    = 0
UseEscapeStringConstants = 0

# Configure server
ImportExportDragAndDrop = 1
ZipTime                = 05:
UIDPrefix              = 1.2.826.0.1.3680043.2.135.736506.40485554
EnableComputedFields   = 1

FileNameSyntax          = 4

# Configuration of compression for incoming images and archival
DroppedFileCompression = un
IncomingCompression     = un
ArchiveCompression      = as

# For debug information
PACSName               = CONQUESTSRV1
OperatorConsole         = 127.0.0.1
DebugLevel              = 0
```

5. Setup which metadata will be added from the DICOM headers into the database: Open dicom.sql file and change the "Rows" and "Columns" into e.g. QRows and QColumns. *(Not changing the Rows and Columns into QRows and QColumns might result in DICOMConQuest won't be able to fetch new files properly and unable to display the CT images).*

```
94 { 0x0020, 0x0004, "StudyInstanceUID", 64, SQL_C_CHAR, DT_UI },
95 }
96
97 *Image*
98 {
99 { 0x0008, 0x0018, "SOPInstanceUID", 64, SQL_C_CHAR, DT_UI },
100 { 0x0008, 0x0016, "SOPClassUID", 64, SQL_C_CHAR, DT_UI },
101 { 0x0020, 0x0013, "ImageNumber", 12, SQL_C_CHAR, DT_STR },
102 { 0x0008, 0x0023, "ImageDate", 8, SQL_C_DATE, DT_DATE },
103 { 0x0008, 0x0033, "ImageTime", 16, SQL_C_CHAR, DT_TIME },
104 { 0x0018, 0x0086, "EchoNumber", 64, SQL_C_CHAR, DT_MSTR },
105 { 0x0028, 0x0008, "NumberOfFrames", 12, SQL_C_CHAR, DT_STR },
106 { 0x0008, 0x0022, "AcqDate", 8, SQL_C_DATE, DT_DATE },
107 { 0x0008, 0x0032, "AcqTime", 16, SQL_C_CHAR, DT_TIME },
108 { 0x0018, 0x1250, "ReceivingCoil", 16, SQL_C_CHAR, DT_STR },
109 { 0x0020, 0x0012, "AcqNumber", 12, SQL_C_CHAR, DT_STR },
110 { 0x0020, 0x1041, "SliceLocation", 16, SQL_C_CHAR, DT_STR },
111 { 0x0028, 0x0002, "SamplesPerPixel", 5, SQL_C_CHAR, DT_UINT16 },
112 { 0x0028, 0x0004, "PhotoMetricInterpretation", 16, SQL_C_CHAR, DT_STR },
113 { 0x0028, 0x0010, "QRows", 5, SQL_C_CHAR, DT_UINT16 },
114 { 0x0028, 0x0011, "QColumns", 5, SQL_C_CHAR, DT_UINT16 },
115 { 0x0028, 0x0101, "BitsStored", 5, SQL_C_CHAR, DT_UINT16 },
116 { 0x0008, 0x0008, "ImageType", 128, SQL_C_CHAR, DT_MSTR },
117 { 0x0054, 0x0400, "ImageID", 16, SQL_C_CHAR, DT_STR },
118 { 0x0010, 0x0020, "ImagePat", 64, SQL_C_CHAR, DT_STR },
119 { 0x0020, 0x000e, "SeriesInstanceUID", 64, SQL_C_CHAR, DT_UI }
120 }
121
```

6. Run **“ConquestDICOMServer.exe”** and test the server connection by going into the installation tab and select the Verify TCP/IP installation. You should see a **“Successful end of test”** in the last line of the log.

