Crystal Quality

Crystal Quality
Business Optimization System
Installation Guide

Crystal Quality Installation

Crystal quality has a fully automated installation package that install all the needed softwares and components.
Double click on the "Crystal quality Full Installation Vx.xx.xx.exe"- setup will automatically start the installation.

In a case of just upgrade version, you can use the "Crystal Quality Service Pack Installation Vx.xx.xx.exe" instead of using the full Installation file.

Specification (CQ minimum requires):

System Capacity
TDM Recording - Up to 256 ch/server (512 ch / server with PCI Expansion Box), can be hybrid system
VoIP Recording – Up to 512 ch/server, can be hybrid system
Screen Recording – Up to 512 agent / server

Server Side

Hardware:
CPU Type: Intel Core i3 more.
Memory: 4G more.
HDD: 500G more.

Software:
Operating System
Microsoft Windows XP Professional
Microsoft Windows 2003 Server
Microsoft Windows 7 Professional 32 bits/64 bits
Microsoft Windows 2008 32 bits/64 bits
Microsoft Windows 2008 R2 32 bits/64 bits
Microsoft Windows Server 2012

Database
Microsoft SQL Server 2005 or above
Oracle

Storage size
For Voice Recording:
5.62 MB/hour at Microsoft GSM
54.9 MB/hour at PCM
109 MB / hour at PCM 8K Stereo
13.7 MB / hour at MP3
3.6 MB/hour at G. 729a

For Screen Recording:
85 MB /hour at 800 X 600 24 bits true color
150 MB /hour at 1280 X 720 24 bits true color
165 MB /hour at 1280 X 720 24 bits true color
175 MB /hour at 1366 X 768 24 bits true color
225 MB /hour at 1600 X 900 24 bits true color
250 MB/hour at 1920 X 1080 24 bits true color

## Client Side
Microsoft Internet Explorer 7 or above

Installing Microsoft Windows OS:

a. Install a Microsoft windows operation system on your server (supported windows OS listed below):

    i. Windows XP professional SP3 (32 bit)
    ii. Windows 7 professional \ ultimate (32/64 bit)
    iii. Windows server 2003 STD \ ENT (32/64 bit)
    iv. Windows server 2008 STD \ ENT (64 bit)
    v. Windows Server 2008 R2 x64 Standard-Recommended

b. It is recommended to <u>install the windows OS in English language version</u> to avoid problems of compatibility,   (time and currency format can be install in your domestic language).
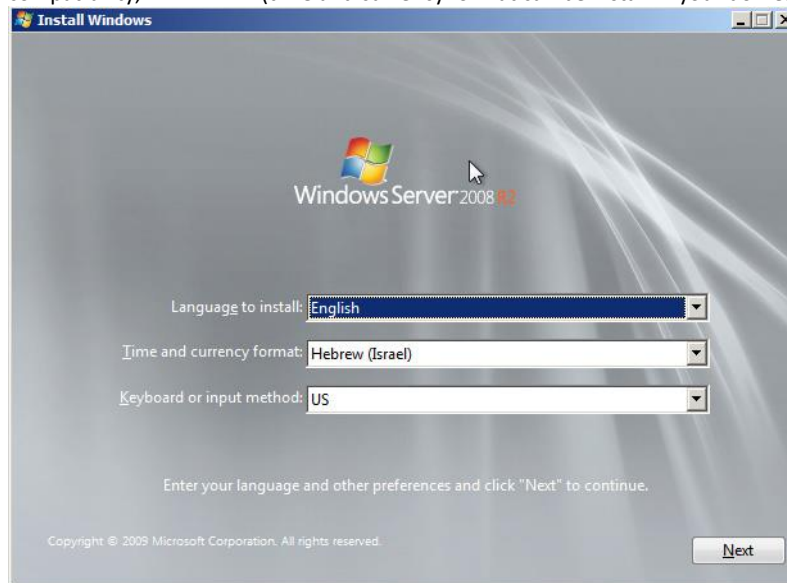
c. As usually windows OS should be installing at (drive C :\),
it is recommended to create another partition in the hard drive (Drive D :\) for the system database, recording and log files.
(Drive C must have minimum of 15GB disk space for proper operation of the windows OS.
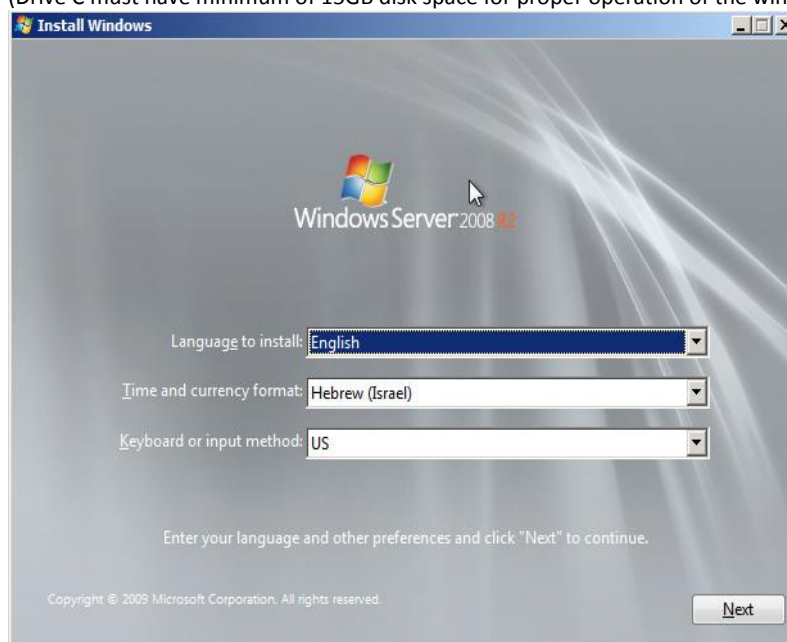
d. After a successful installation of your windows OS you will need to install the following components and software:

1. Install all your server hardware device latest drivers.
2. Activate your windows product to verify that your windows copy is genuine for receiving windows updates and Microsoft support.
3. Install the latest service pack edition and Microsoft windows updates for your windows OS (recommended).
4. Set your local date and time zone.
5. Configure your network environment (it is recommended to use a static IP address for your crystal Quality server).
6. Install anti-virus software to protect your server and files.

e. Now after your windows OS is ready, you need to install first your SQL database prior to the Crystal Quality installation (if you use SQL on a different server you can skip this part), Crystal Quality require SQL database as follow:

1. MSSQL server 2005 / 2008 (32/64 bit)
2. Microsoft SQL express server 2005 / 2008 (32/64 bit)
3. Microsoft SQL 2008 R2 express server (64/86 bit) - Recommended
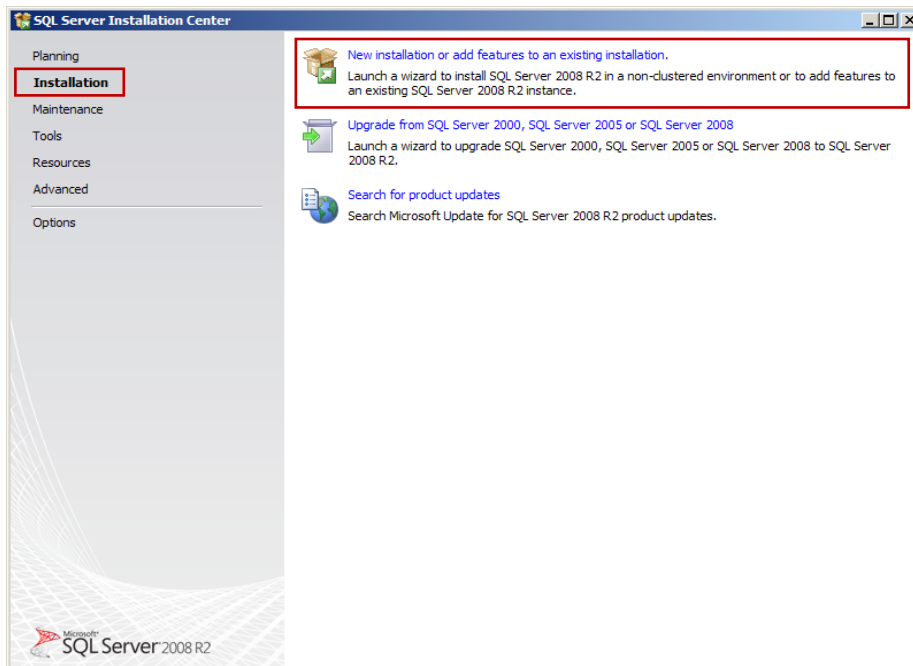4. Oracle SQL

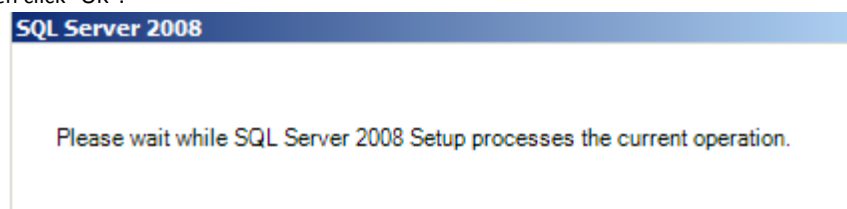## Installing SQL database:

a.   Open you SQL server installation file
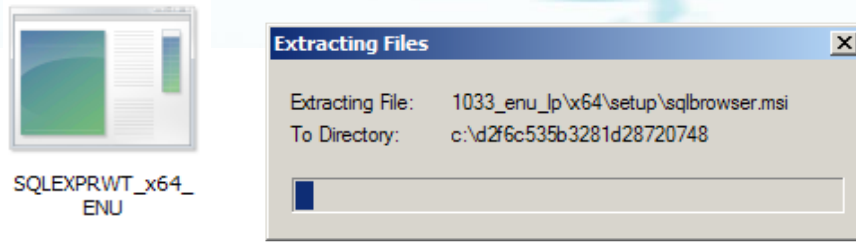
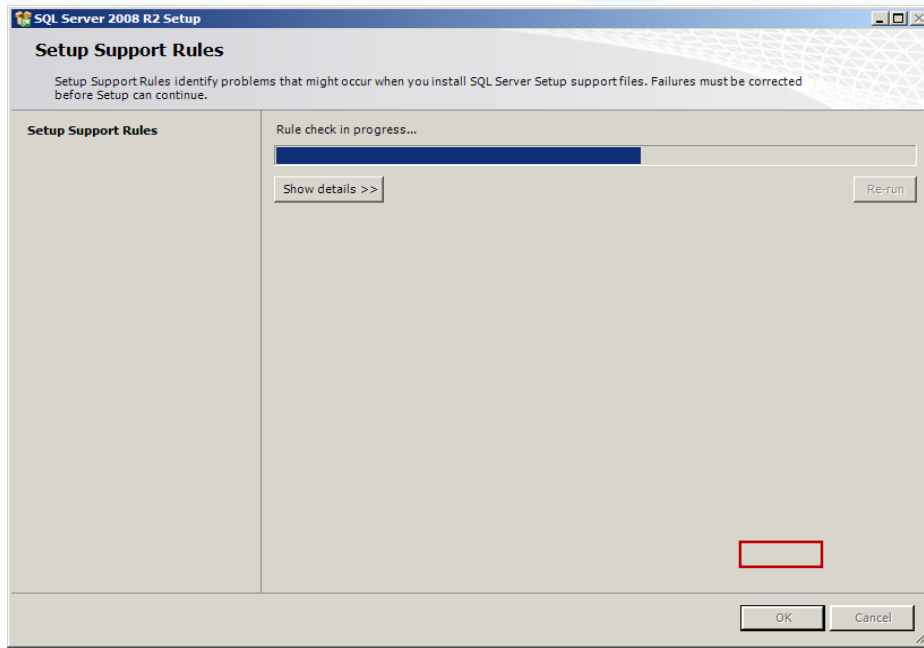b. Click "Ok" to let the installation enable the .NET Framework role.
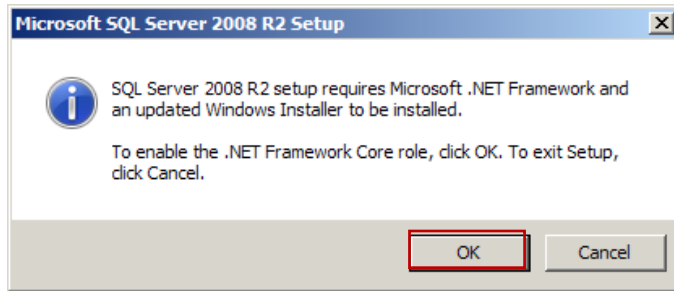
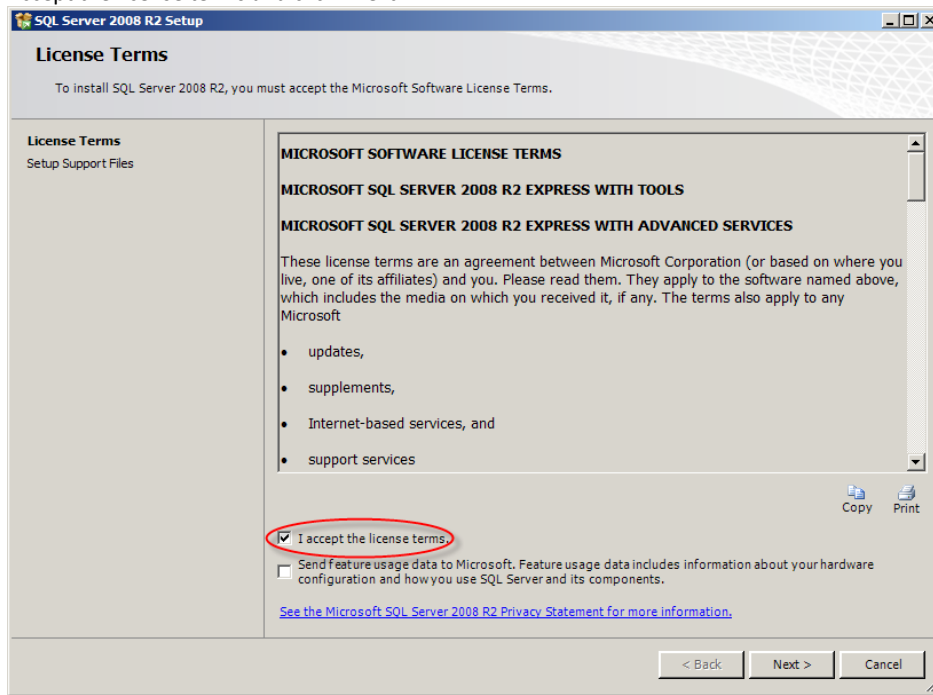c. In the right pane click on "New installation or add features to an existing installation".

d. SQL server setup will prepare to install the support rules, Make sure that all rules status is "Passed" and then click "OK".
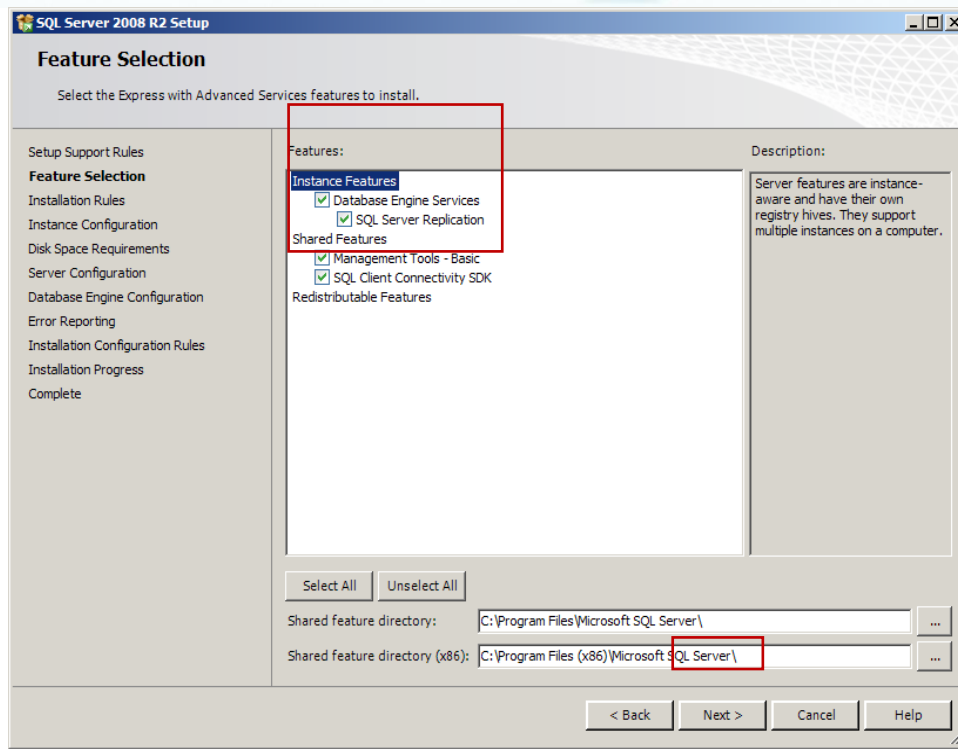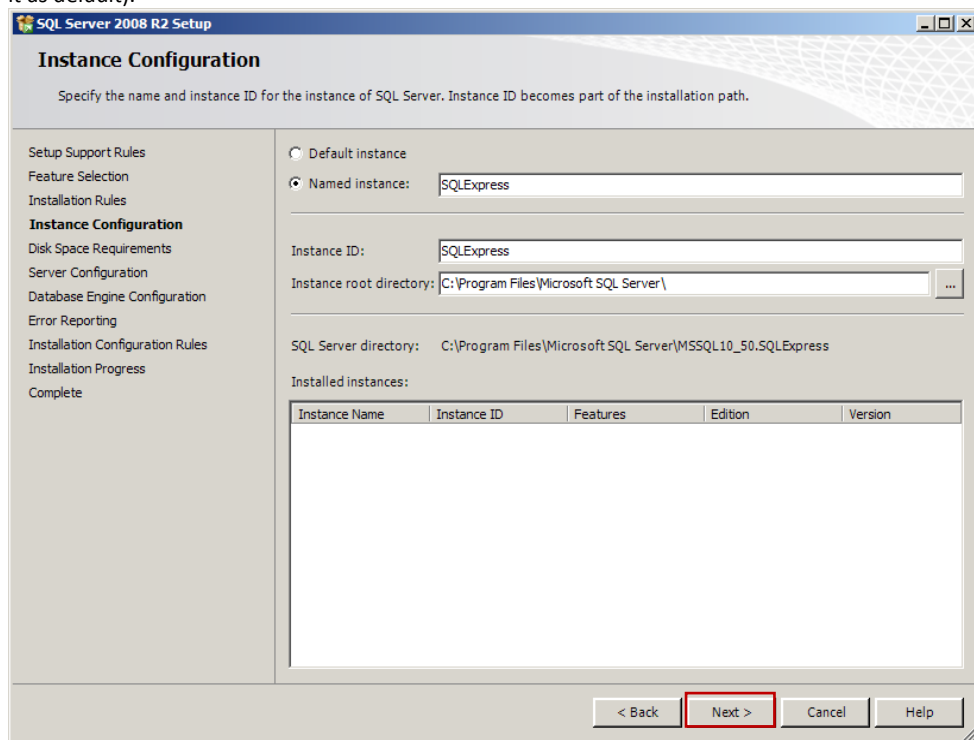
e. Accept the license terms and click "Next".

f. Click on "Select All" for marking all the features to be installed, and then click "Next" (you can also change the installation path of SQL server in this screen or leave it as default).
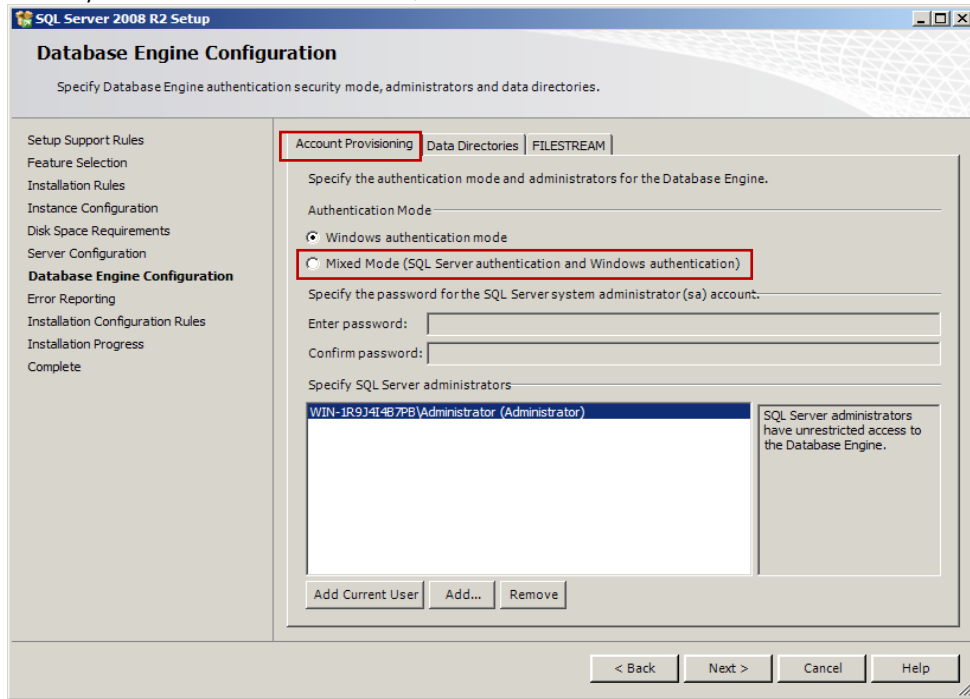
g. Click "Next" (you can also change the Instance name and path of SQL service in this screen or to leave it as default).
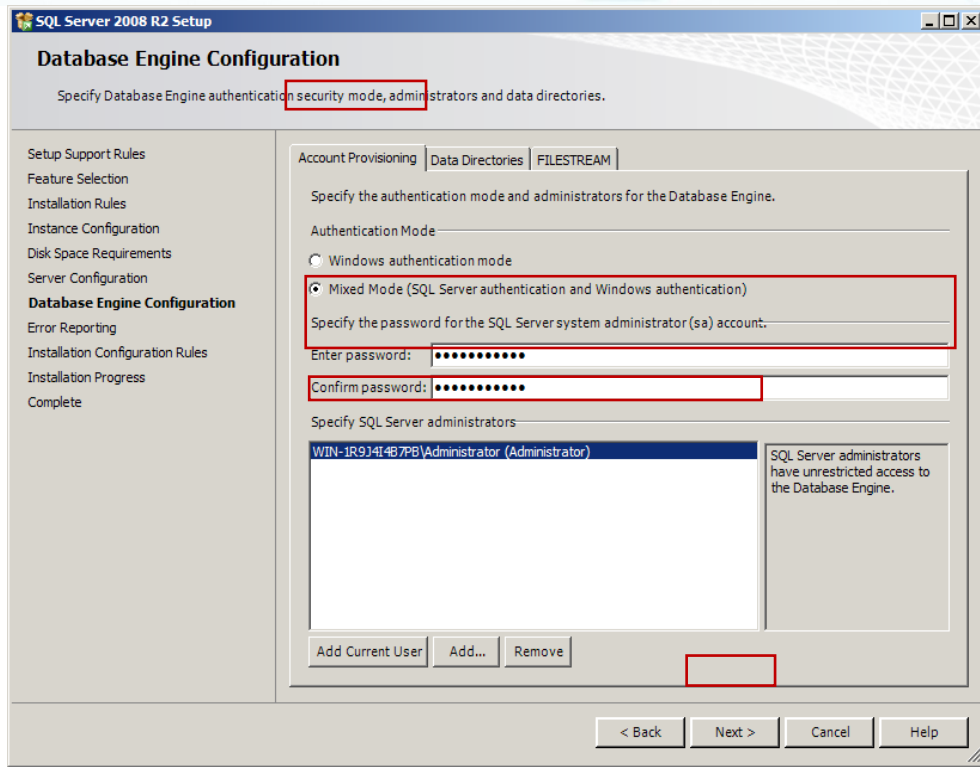

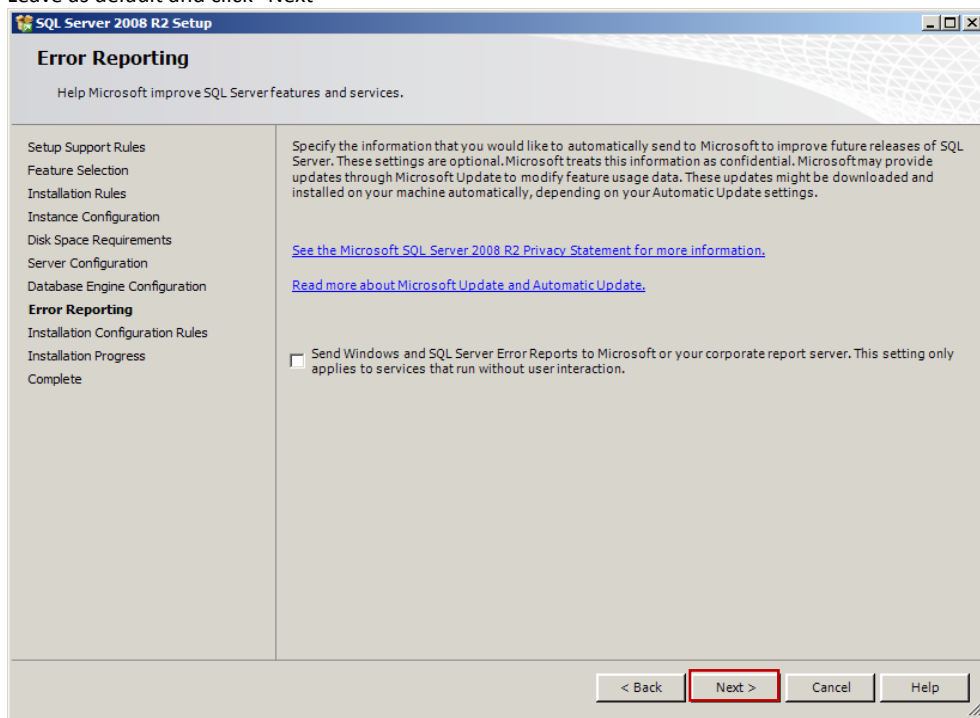h. Set Account name "NT AUTHORITY\SYSTEM" for the "SQL Server Database Engine" service and then click "Next".
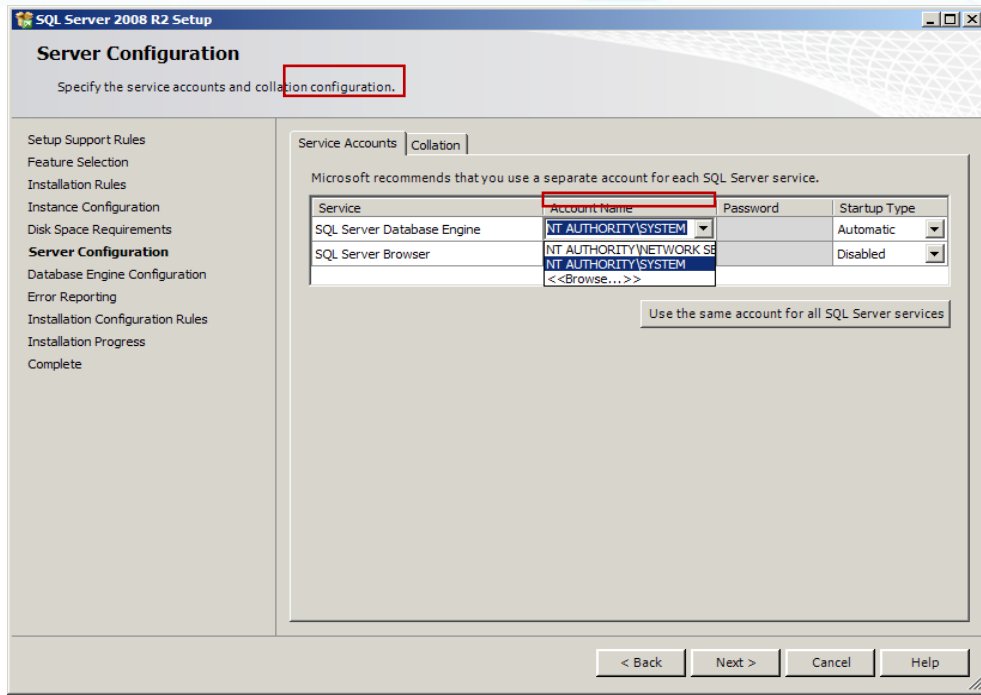
i. Choose your Authentication mode add SQL Server Administrator user and then click "Next".
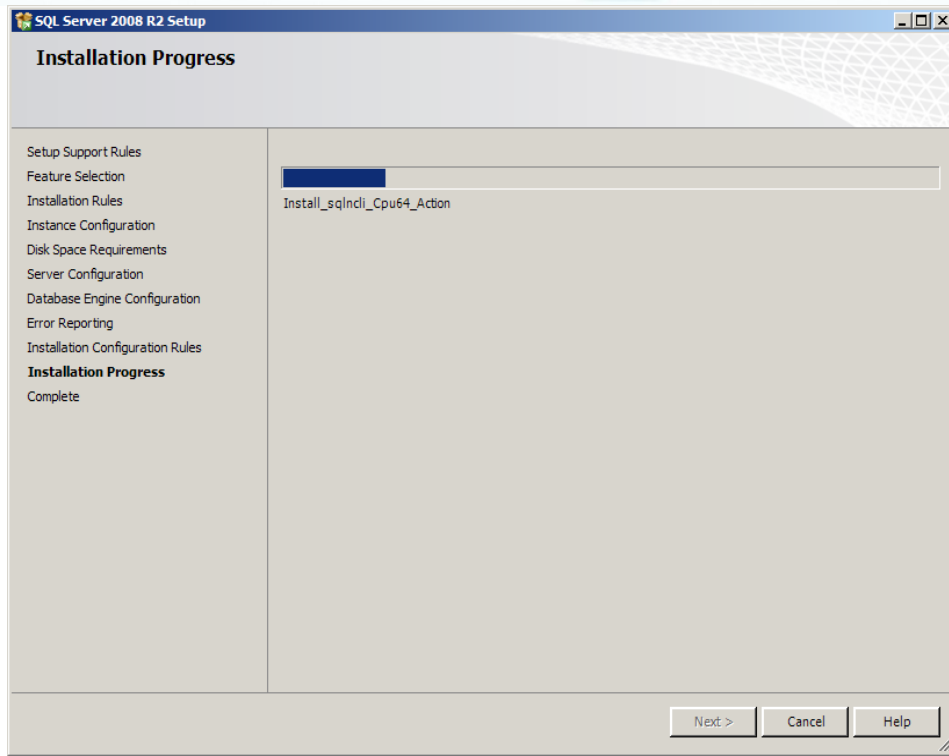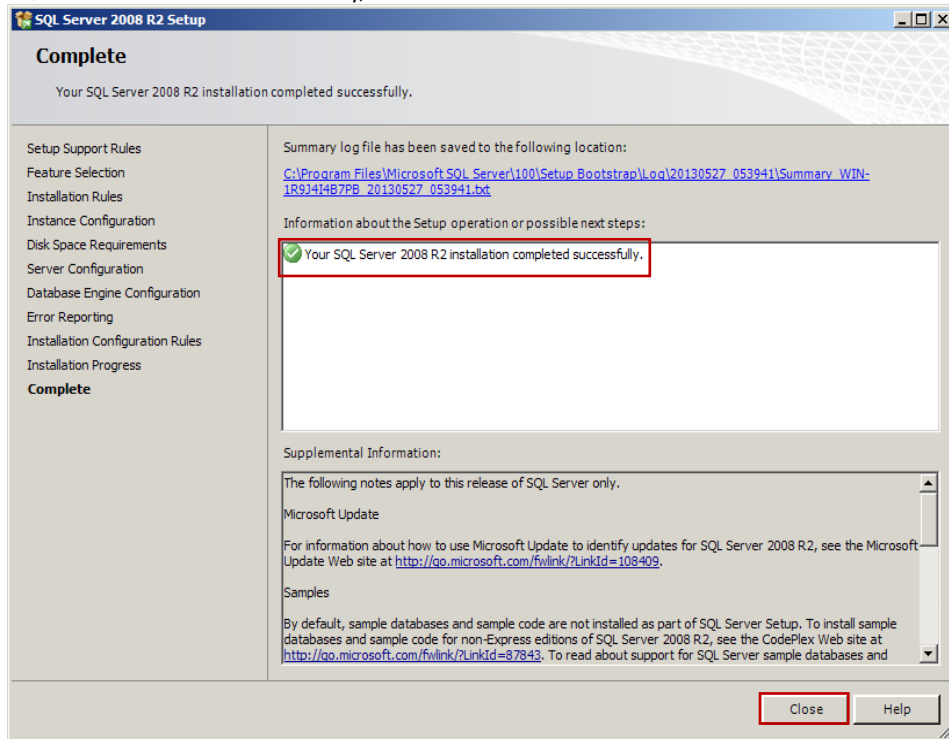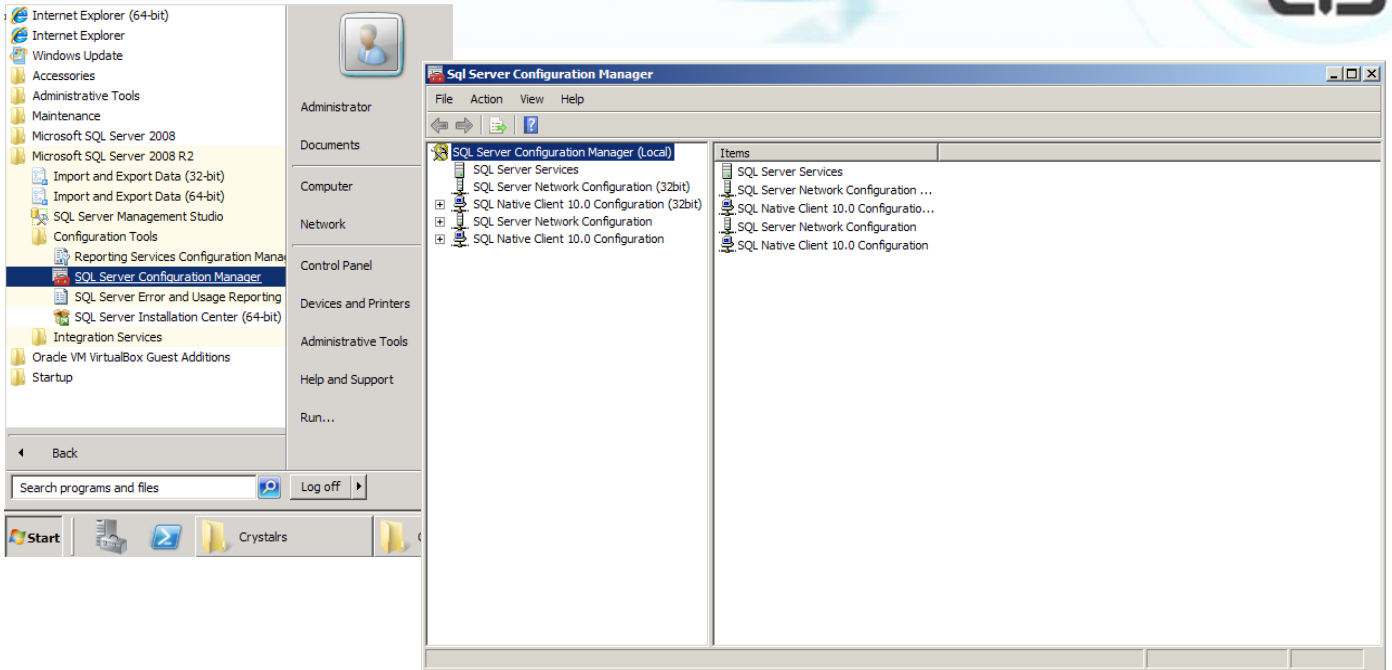
j. Leave as default and click "Next"

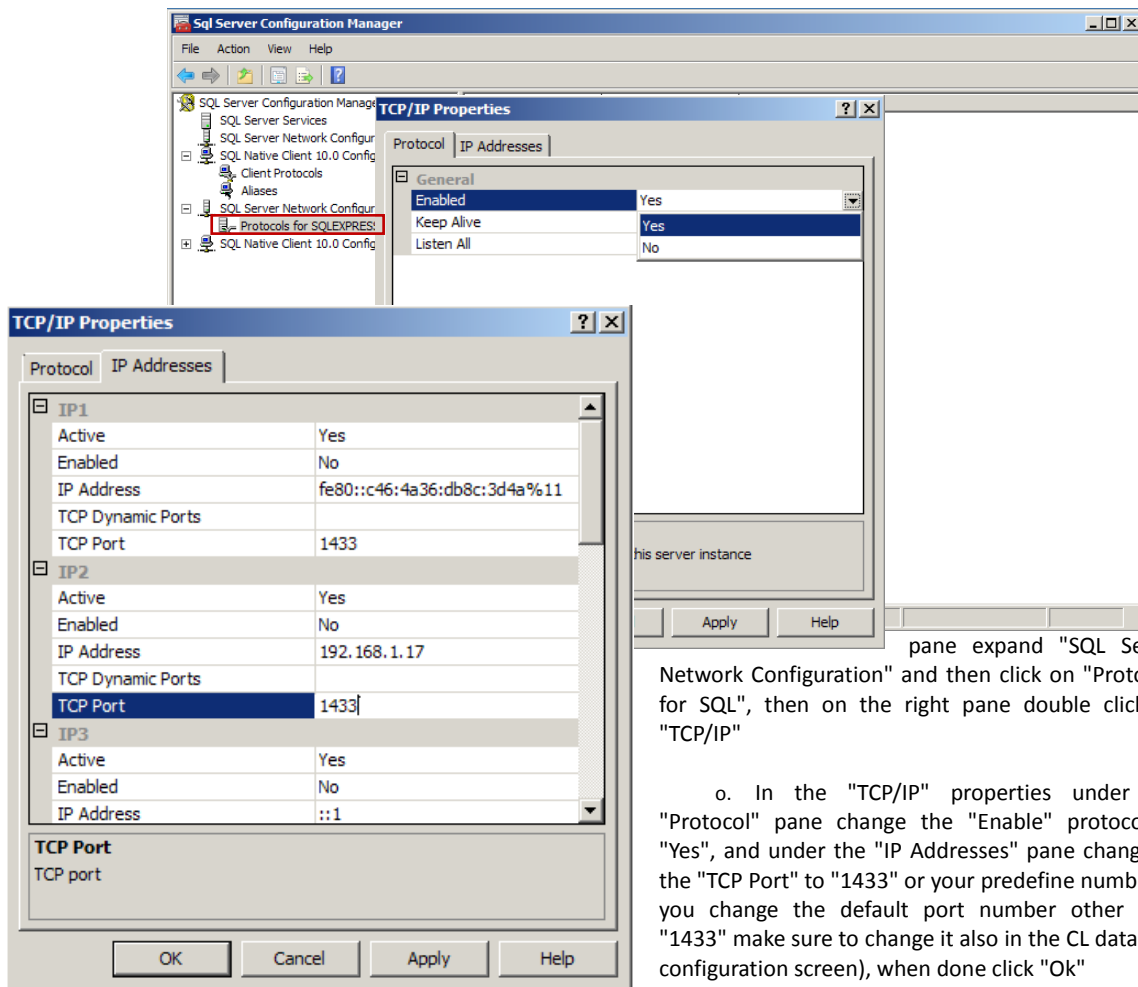k. Setup is running, please wait until installation will be complete

l. SQL server was installed successfully, click "Close"

m. Now you will need to configure SQL server, open the "SQL Server Configuration Manager" via – click Start > All Programs > Microsoft SQL Server 2008 R2 > Configuration Tools > SQL Server Configuration Manager

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pane expand "SQL Server Network Configuration" and then click on "Protocols for SQL", then on the right pane double click on "TCP/IP"

o. In the "TCP/IP" properties under the "Protocol" pane change the "Enable" protocol to "Yes", and under the "IP Addresses" pane change all the "TCP Port" to "1433" or your predefine number (if you change the default port number other than "1433" make sure to change it also in the CL database configuration screen), when done click "Ok"

p. In order for the changes to take effect you will need to restart the "SQL Server" service, to restart the service click on the "SQL Server Services" in the left pane and then restart the "SQL Server" service in the right pane
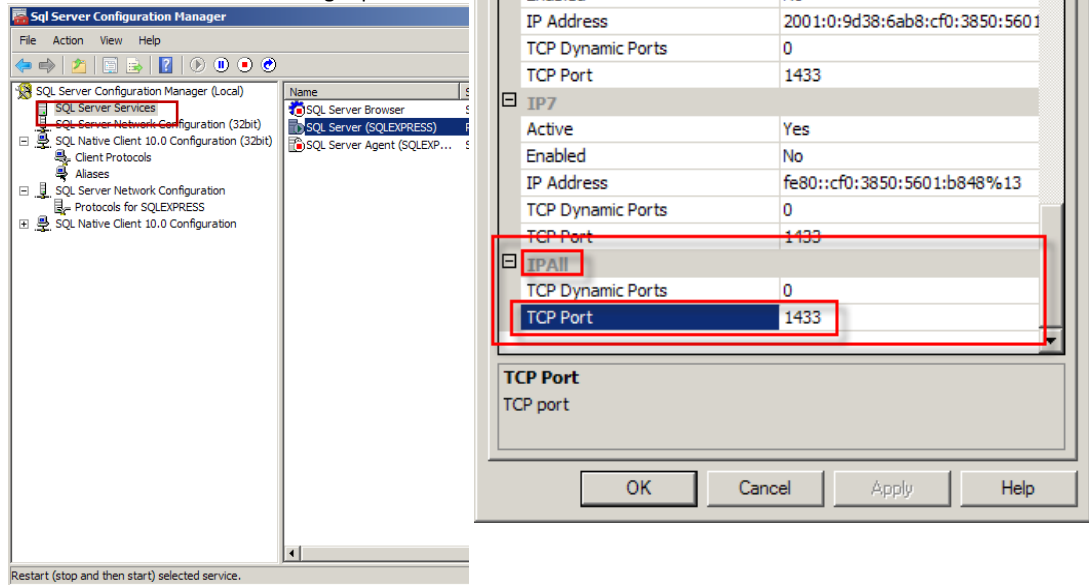
Start CQ Installation:

Before starting the CQ installation you must to change fire wall and UAC settings as detailed below,

- Turn off the UAC:
  UAC is a feature in windows that can help you stay in control of your computer by informing you when a program makes a change that require a permission level manager. UAC works by adjusting the permission level of your user account.
  When changes that require director level permission about to be made to your computer, UAC notifies you. If you are an administrator, you can click 'yes' to continue. If you are a manager, someone with an administrator account will have to enter his password before continuing. You get only a temporary administrator rights to complete the task and then your permissions are returned back to the normal user.
- Changing fire-wall blocking ports setting:
  In data communication, firewall is a system for monitoring and blocking unwanted engagement to the communications network or to a single computer.
  Before installation Crystal Quality recording system you must to open the blocked for CQ ports.
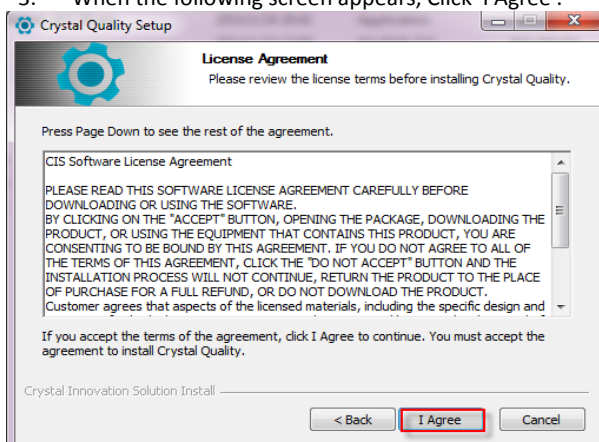
1. Double click on the "Crystal Quality Full Installation vX.X.XX.XX.exe".
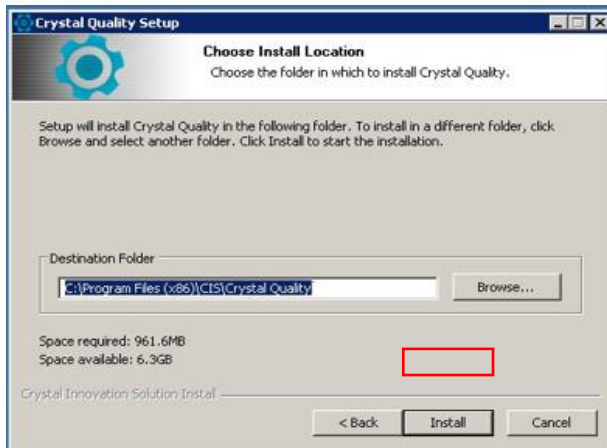   Choose preference installer language, Click 'OK'.

2. Following installation screen appears, Click 'Next'.

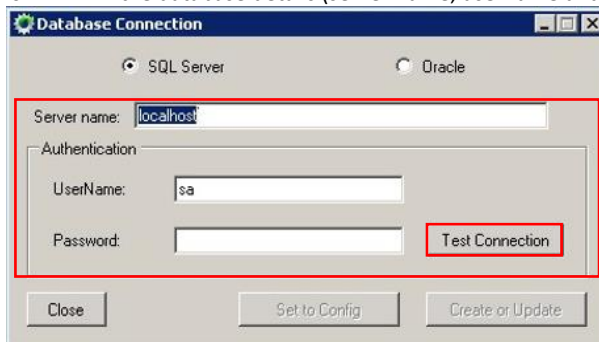3. When the following screen appears, Click 'I Agree'.

4. When, the following screen appears, choose install location, Click 'Install'.

5. Wait a few seconds, Crystal Quality Setup installation interface appears.
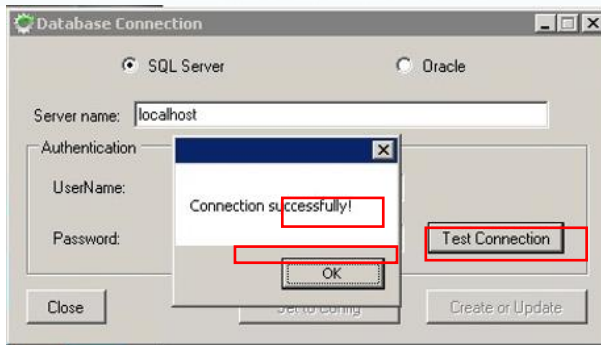

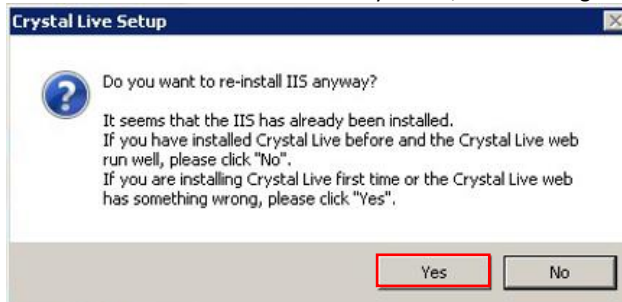6. Fill in the database details (server name, username and password), Click 'Test Connection'.

It is necessary to add Server name, UserName and Password.
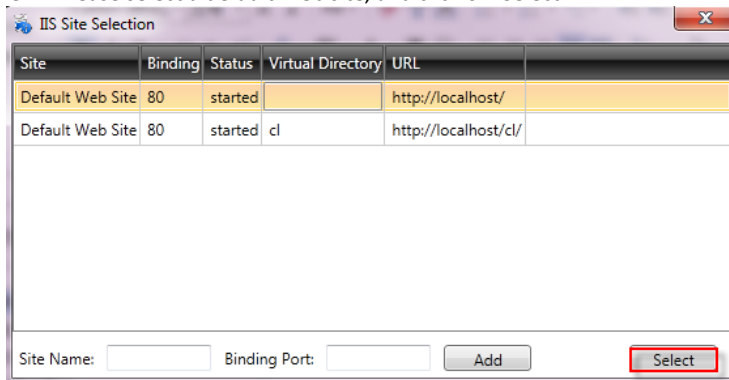
After it Test Connection.

Just after test connection successfully, click at first ' Create or Update' button, secondly 'Set to Config'.

7. After the database is successfully create, the following screen appears, Click 'yes'.
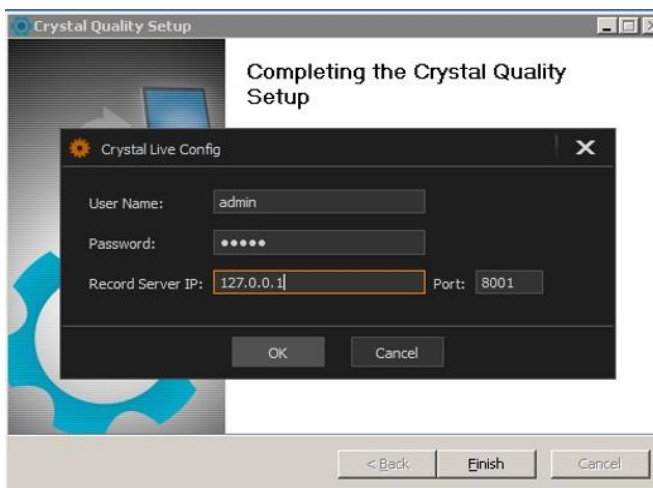

8. Please select a default Web site, and click on 'Select'.

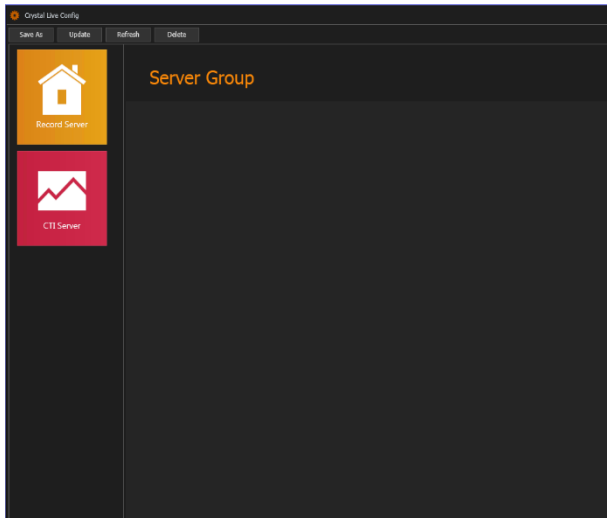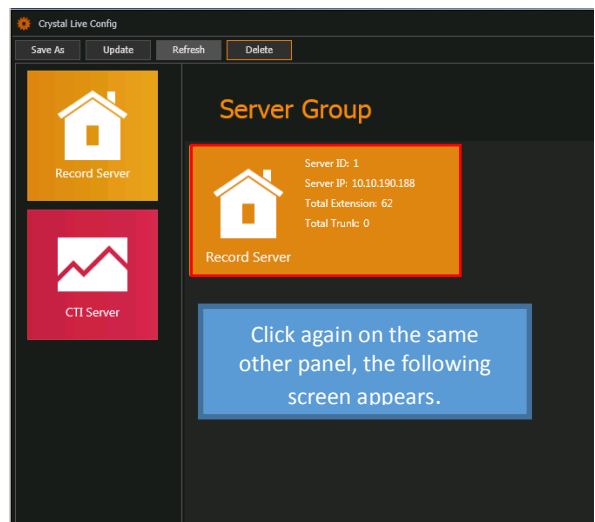9. Entrance to configuration tools:
   User name: admin
   Password: admin

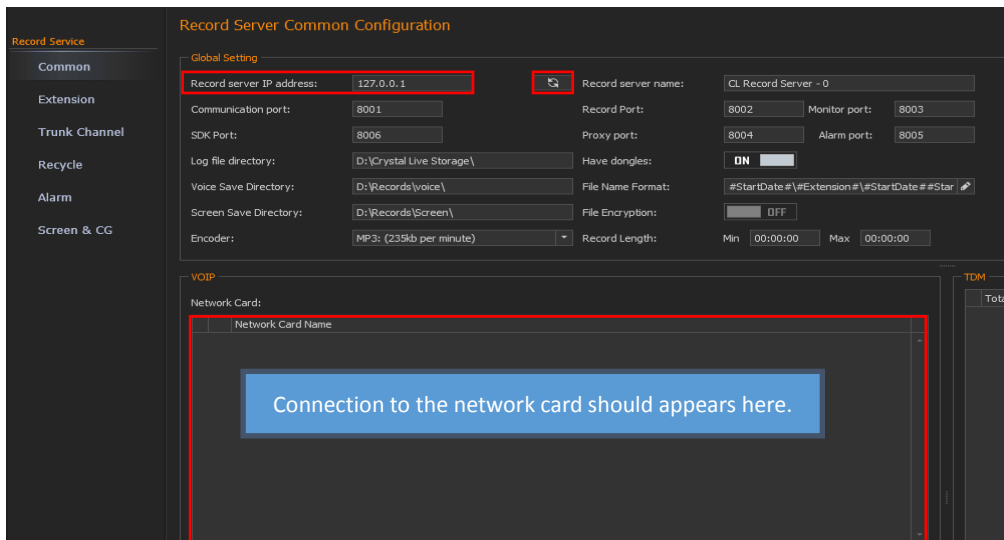Record server IP: 127.0.0.1(local host)
Port: 8001(Communication Port).
Click 'OK'.

10. Pleas click on 'Record Server', the panel will show up on the black screen.

Click again on the same other panel, the following screen appears.

10.1. Change the IP, click on 'refresh' button , you will get connection to the Network card/s.

Connection to the network card should appears here.

10.2. Define an address property (MAC/IP)-just in VOIP recording!

10.3. Select the protocol type,

10.4. Define an extensions according to the recording type (VOIP/TDM),
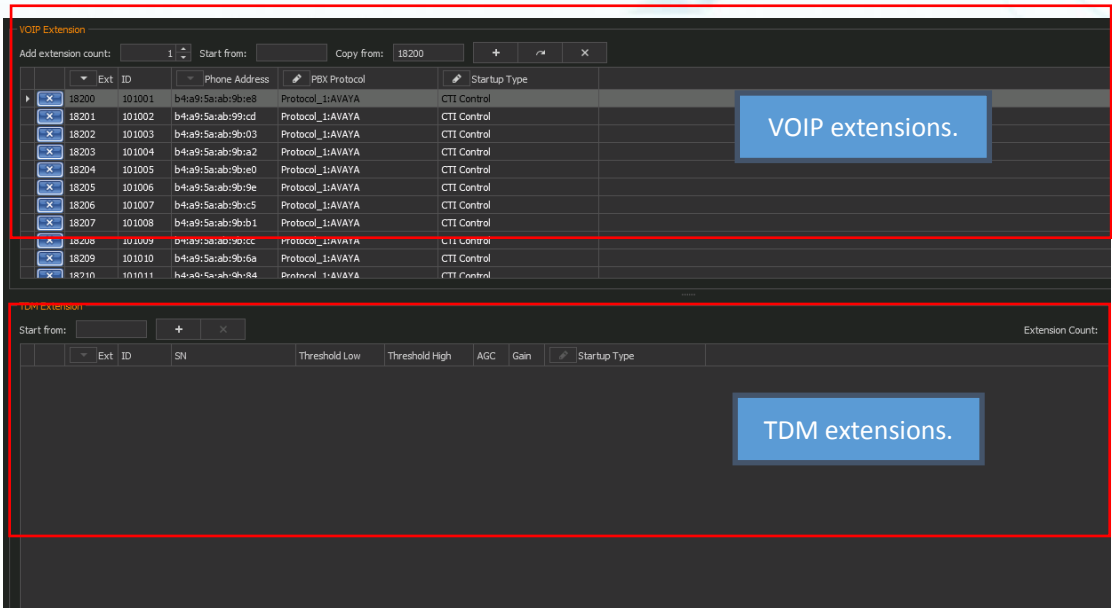
11. When following interface appears, click 'Close'.
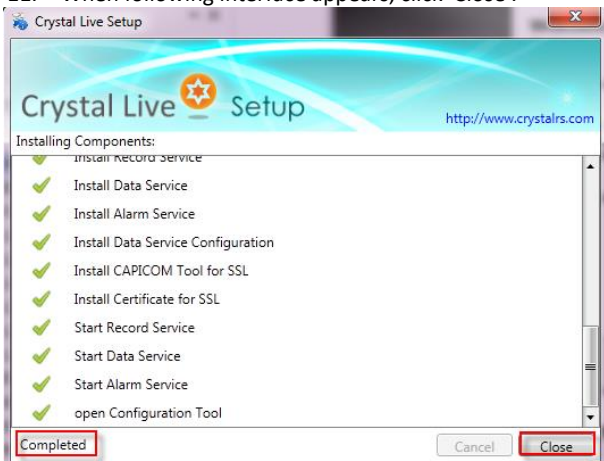
12. Input the selected URL (default URL http://localhost), appear as home page, Login into the system.

Setting configuration:

- **Common Tab**

Add the server IP Address and click on the 'refresh' button.
The server should recognize automatically the defined network cards.

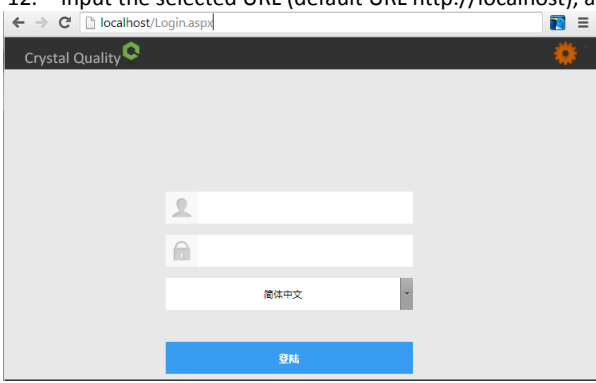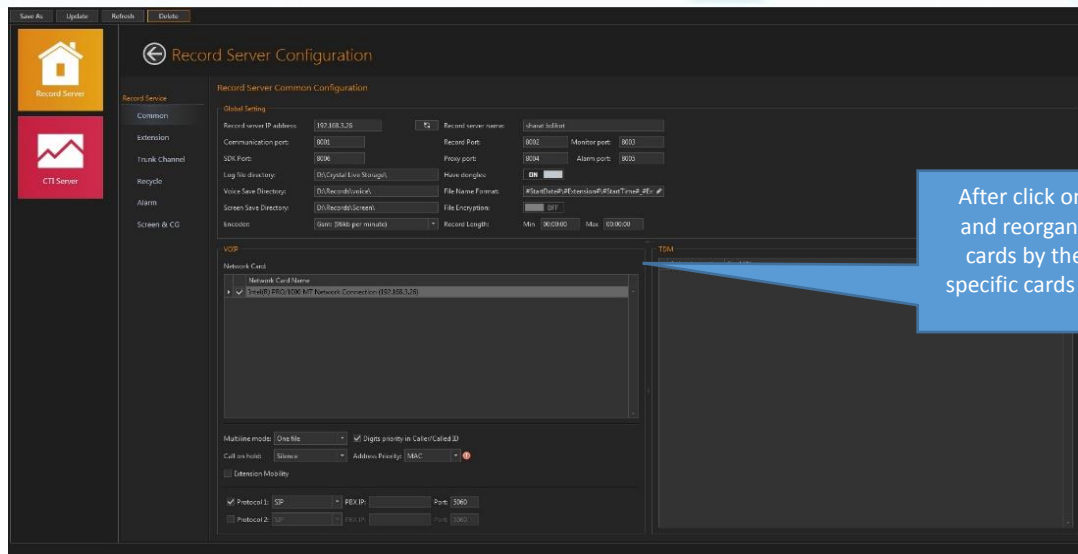After click on the refresh button and reorganization the network cards by the system, check the specific cards you want to get data from.

field name	default value	description
Communication port	8001	Number's definition of the six port the CQ work with.
Record Port	8002	
Monitor Port	8003	
Proxy Port	8004	
Alarm Port	8005	
SDK Port	8006	
Log File Directory	D:\Crystal Live Storage\	Full path of saving the logs files.
Voice Save Directory	D:\Records\voice\	Full path of saving the recording files.
Screen save directory	D:\Records\Screen\	Full path of saving the screen recording files.
File Name Format	#StartDate#\#Extension#\#StartTime#_#Extension#	
File Encryption	off	
Record Length	min: 00:00:00 , max: 00:00:00	The minimum and maximum length of call to create a recording file by the system.
Have Dongles	on	
Encoder	mp3	Type of format the recording files will save.
Multiline mode	One File	
Digits priority in caller/called id	Checked	
Call on hold	Silence	
Address priority	MAC	The option to choose between MAC or IP address in case of VoIP recording.
Extension mobility	Not Checked	Check just in case of extension mobility.
Protocol 1	SIP	Type of recording protocol.

- **Extension**
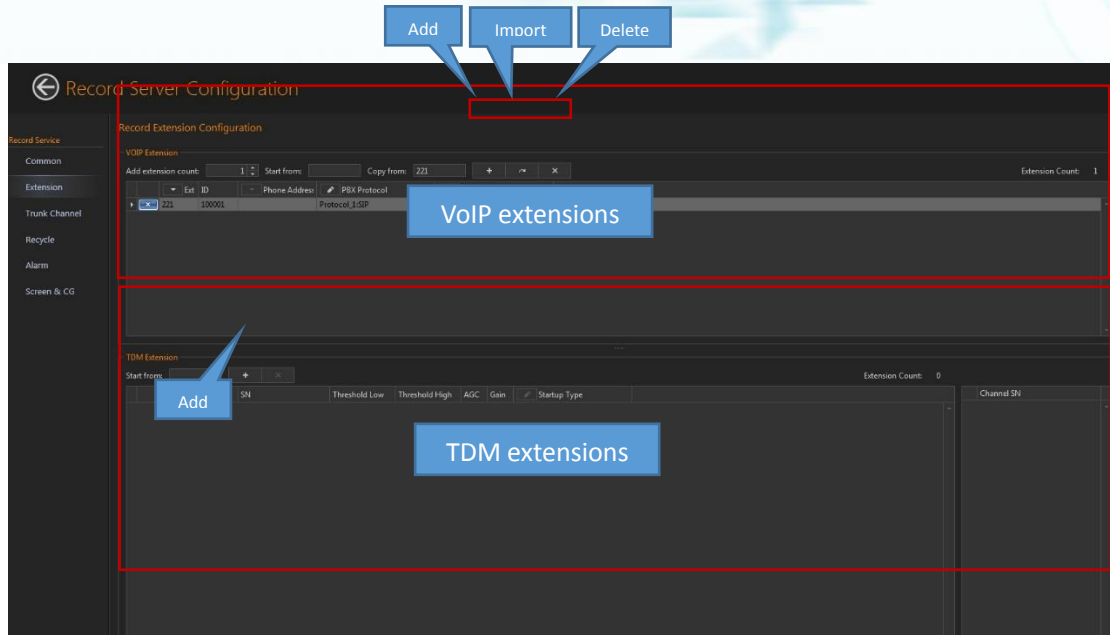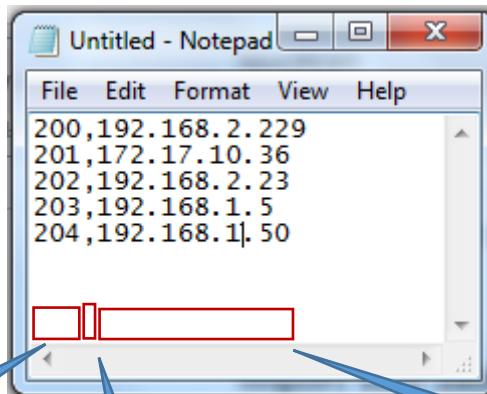
- **VoIP extensions:**

The upper screen is designed to add VoIP extensions.

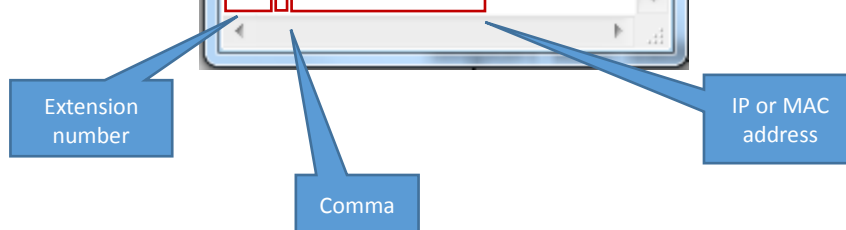Add extension count-number of VoIP extension to add.

Start from- first number of extension the system will create.

Copy from-choose the extension number, and click on 'copy from' the fields 'PBX Protocol' and 'Startup Type' will copied to the subsequent extensions.

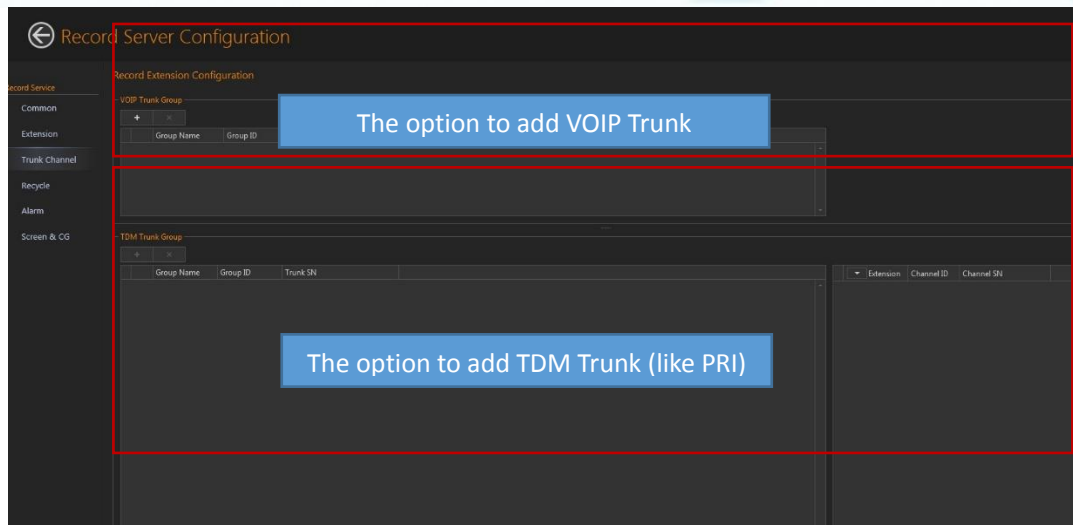Import VoIP extensions   by a notepad file format, as picture below:
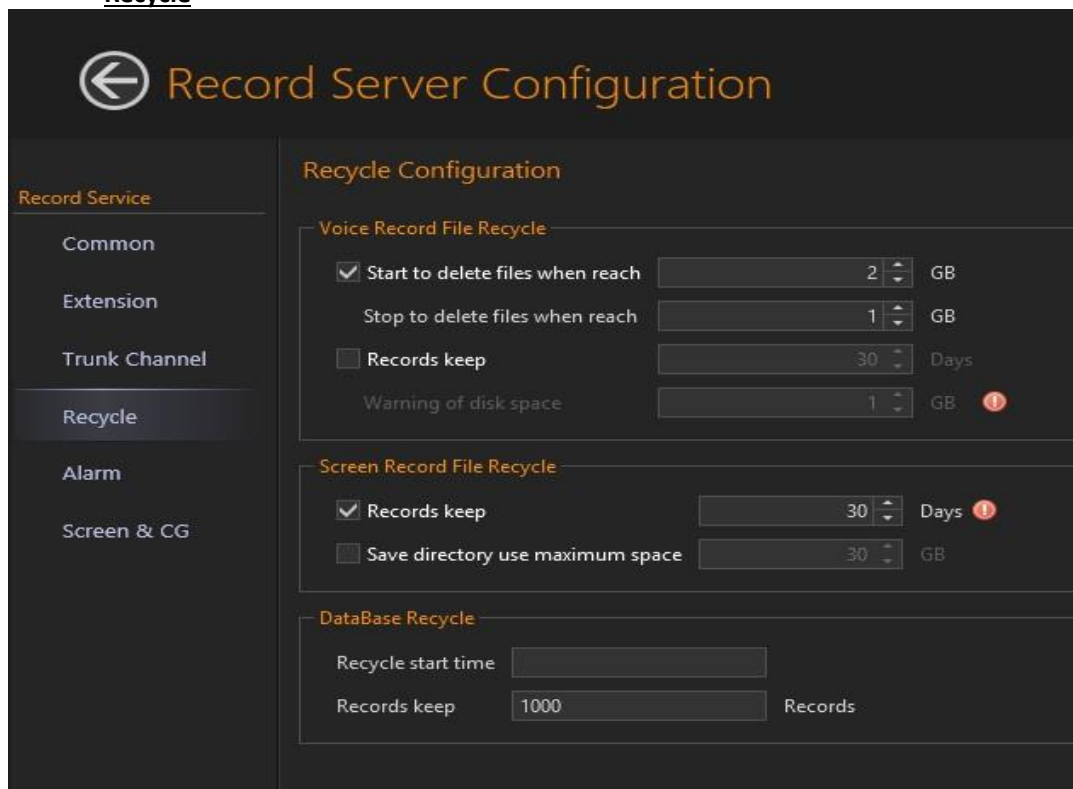

- **TDM extensions:**

At the bottom of the screen, appear the open channels (SN) boards you should to define in the CQ recording system by giving an extension number.

- **Trunk Channel**

- **Recycle**

In Crystal Quality system under settings recycle you have the <u>ability to define separate setting for:</u>

- Voice recording.
- Screen recording.
- Data base (SQL).

The Recycle works in a way that it deletes completely the records from the directory path on the server-and not from the Data Base.

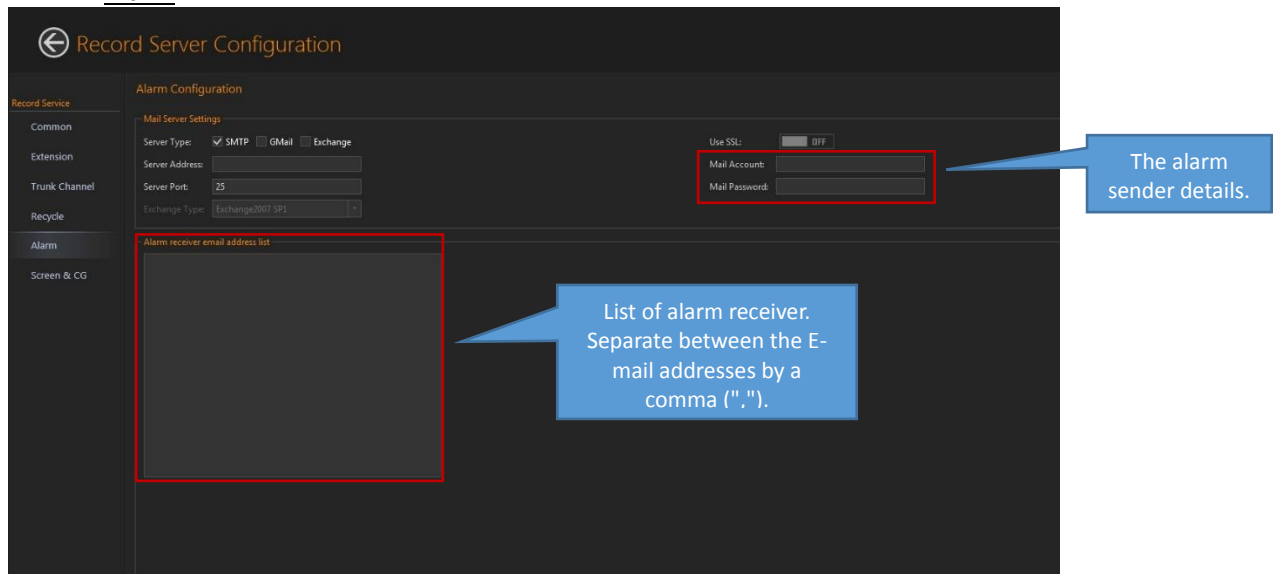**There are two optional alternatives to define the recycle way of work:**

1. Start to delete files when reached/ Stop to delete files when reached

Start delete recordings when the free space on the disk reaches to the minimum size define,

and stop delete when it comes to the maximum free space.

2. Records keep

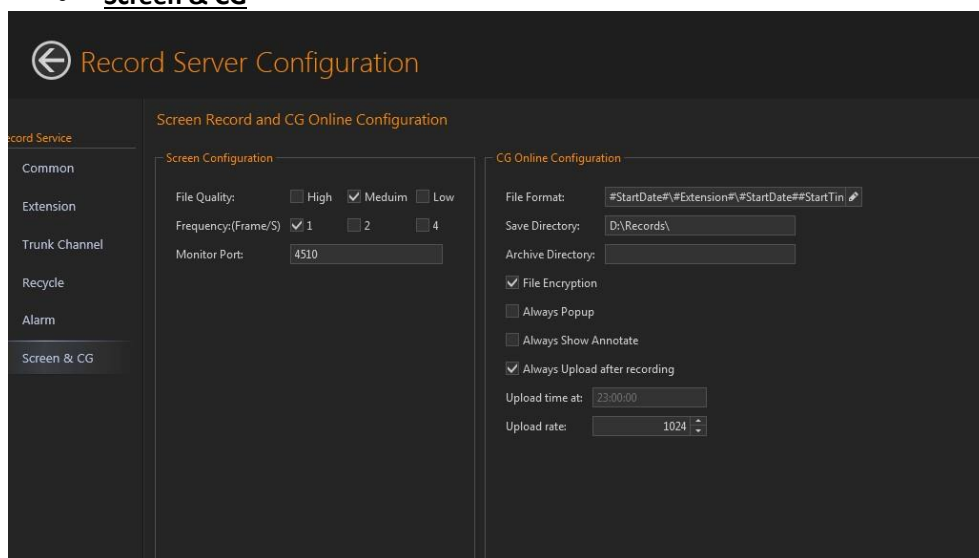Keeps recordings back, depending of the specified number of days.

- **Alarm**

The alarm e-mail service supporting 3 type of servers:
1. SMTP(server port-25)
2. Gmail(server address-smtp.gmail.com, server port-578)
3. Exchange

- **Screen & CG**

Screen Configuration:

field	default value	description
File Quality	Medium	
Frequency Frame	1	
Monitor Port	4510	

CG Online Configuration:

| field	deafult value	description
File Format	#StartDate#\#Extension#\#StartTime#_#Extension#	
Save Directory	D:\Records\	
Archive Directory		
File Encryption	check	
Always Popup		
Always Show Annotate		
Always Upload after recording	check	
Upload time		
Upload rate	1024	

Server Maintenance operation:

Windows Updates

Windows updates are software additions that can help to prevent problems, improve the computer operation and optimize the security of your computer.
The easiest and effective way to install updates is to turn on the automatic updating.

Control Panel -> Windows Update -> Check for updates and install updates.
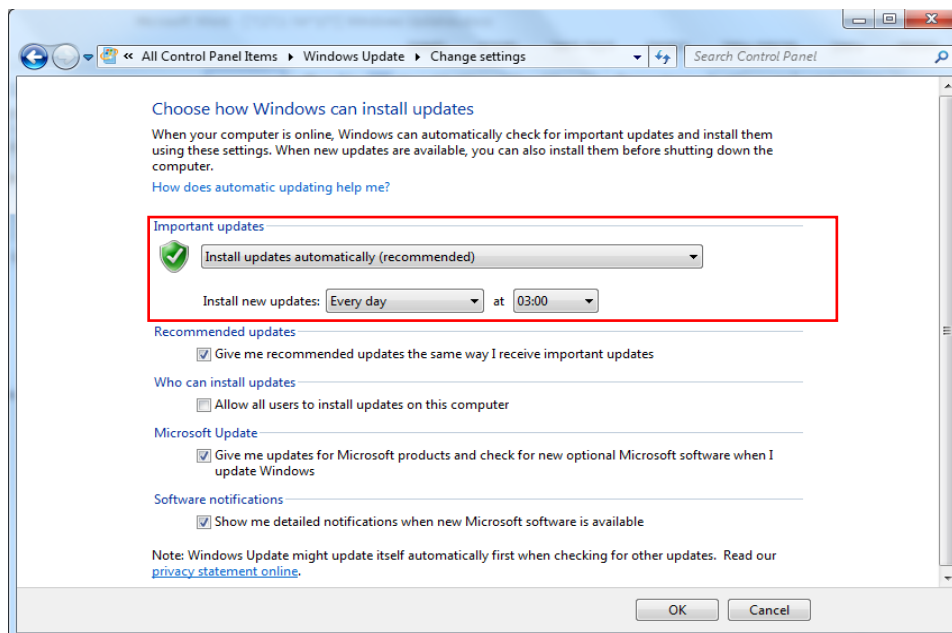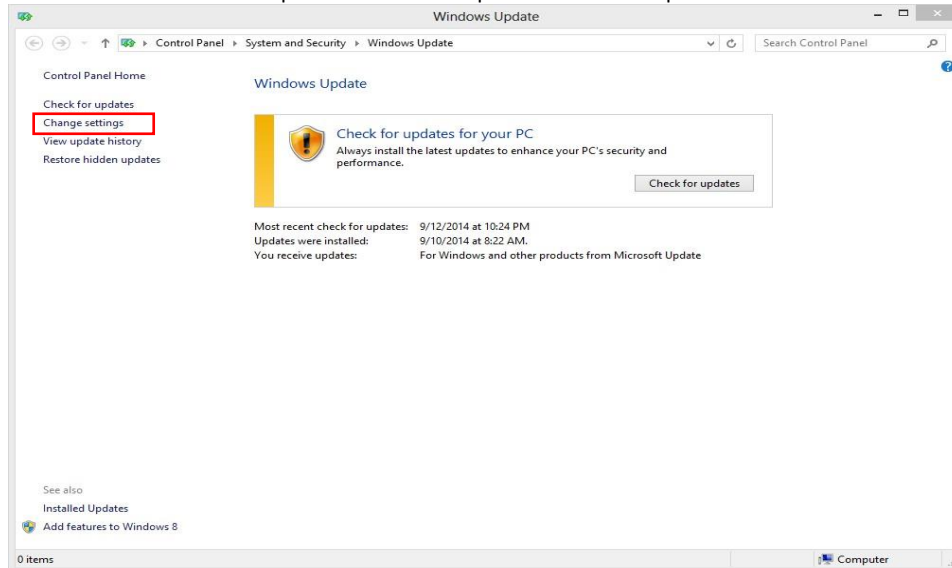
Anti-virus

The first step in protecting your computer from harmful viruses is to install anti-virus software.
Anti-virus will protect better your computer from viruses, Trojans, worms and many type of pests.
Update your anti-virus software program inform about new viruses and harmful viewed online-the software update takes only a few seconds.
Another important thing to perform with anti-virus software is scanning. It is recommended to scan the server once a week (in most anti-viruses can simply determine the dates of automatic scans).