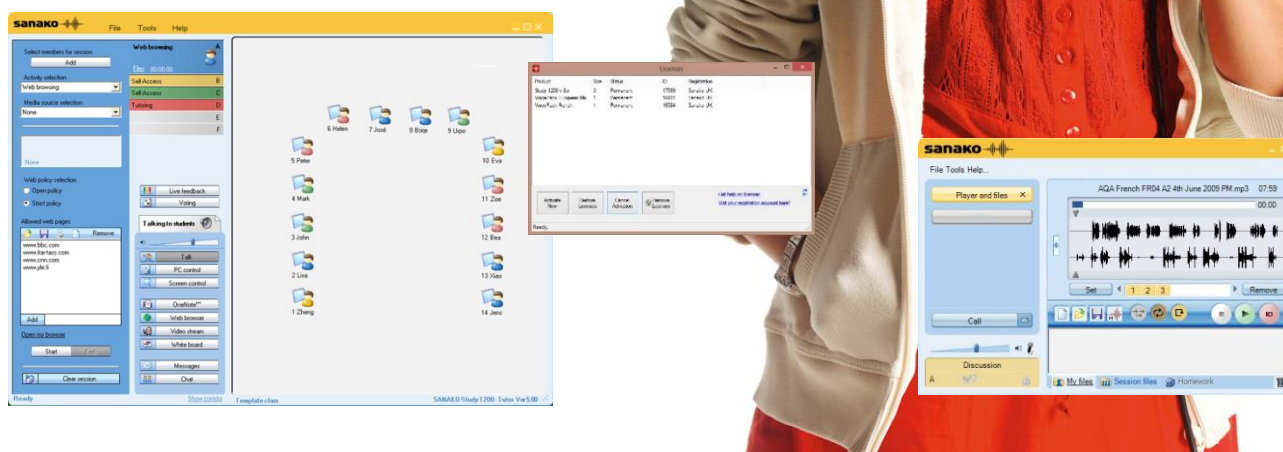# Sanako Study

Technical Guide

Version 1.26012017 **

A practical and essential guide for anyone supporting a Sanako Study installation

** All content is based on Study V9.

Contents

1. Study system architecture and licensing

The Sanako Study software is sold as 3-off different products.

Study 1200 - This is the fully featured proven software language laboratory and provides the user with the full language learning experience. Watch the following video link to see what it can do for you What is a Sanako Study 1200 Language Lab

Study 700 - An entry-level language laboratory with the option to add modules as and when required to take it up to the full Study 1200 solution. It looks and feels exactly the same as Study 1200 but it does not have all the benefits and features – it offers part of the Study 1200 capabilities.

Study 500 - Providing any ICT room or laptop trolley with Classroom Management to monitor, guide, focus and support students. It looks and feels exactly the same as both Study 700 and 1200 but only offers the control and monitor features without any of the language learning tools.

All products install exactly the same software and the various features and benefits are shown to the customer depending on the licenses available. You can have all 3-off solutions in use on the same network and different rooms and users can select which product they want to use in a dynamic manner. This unique licensing system is best explained by watching the following video Sanako Dynamic Licensing. In effect the student software is license free and can be installed and used in a self-access manner anywhere on the network. It is only when a teacher starts a lesson and that student is added to the lesson that they use a license.

1.1 System Architecture
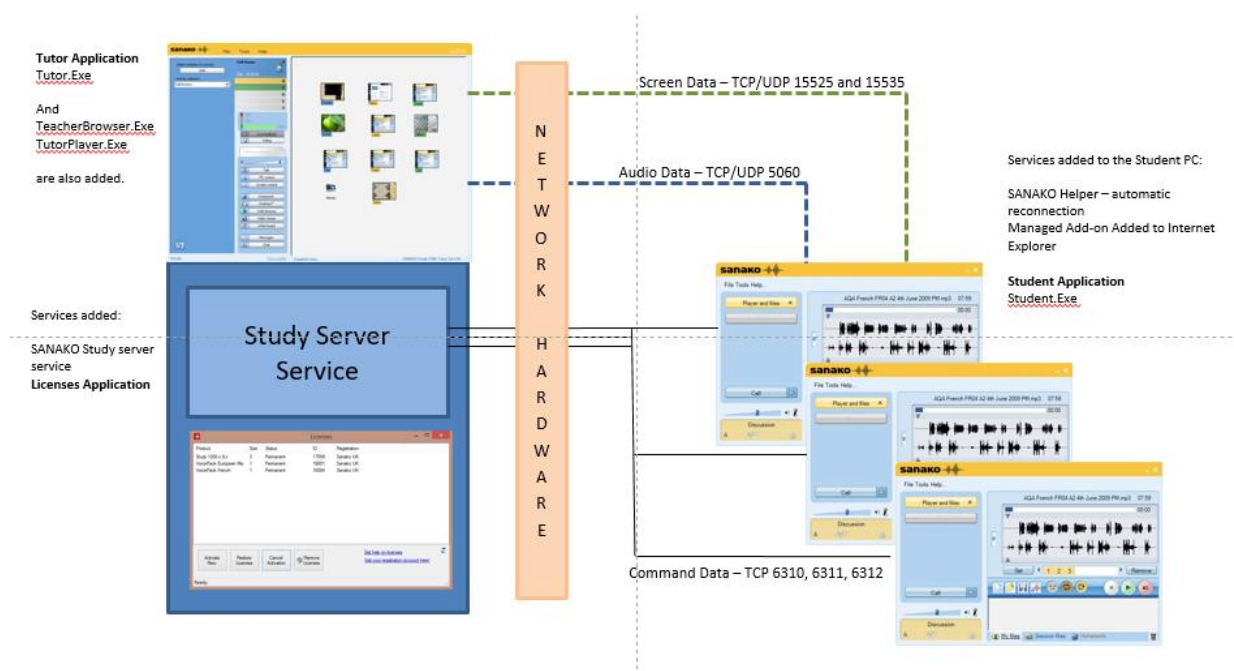
1.2 Licensing

All Tutor, Student and Server installs will create a Licenses.Exe program which when opened allows you to activate, restore, register and cancel any Sanako licenses. The application displays the number of licenses, whether the licenses are permanent or time-limited and who they are registered to.

Product	Size	Status	ID	Registration
Study 1200 v.8.x	3	Permanent	17599	Sanako UK
VoicePack European Mix	1	Permanent	16601	Sanako UK
VoicePack French	1	Permanent	16584	Sanako UK
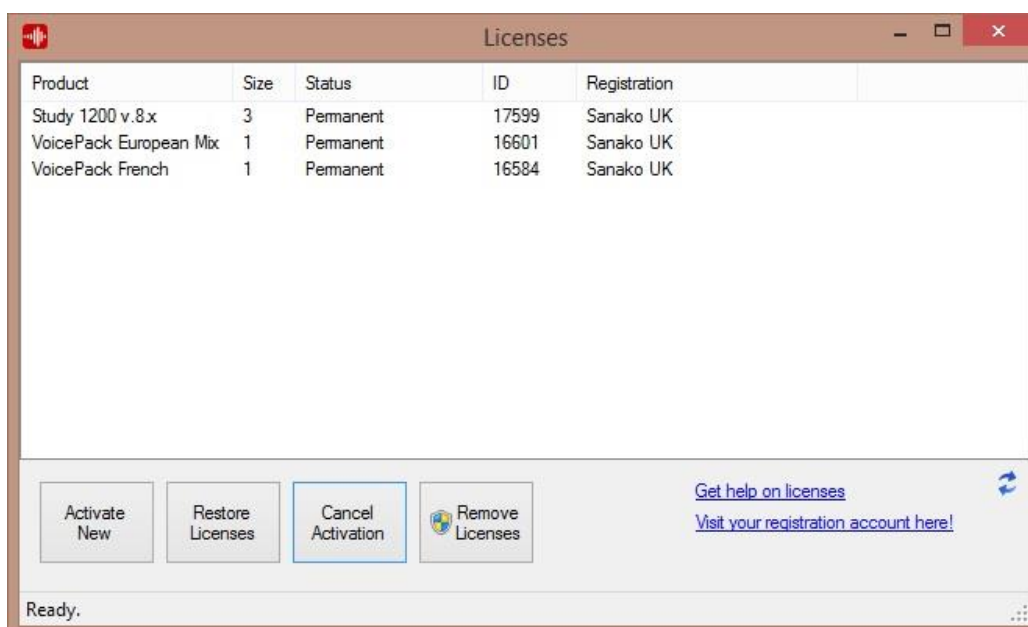
You must have Internet access and be able to browse to http://registration.sanako.com/tokens/Account (an offline option is available)

You must also have created your own account at http://registration.sanako.com/tokens/en-US/Account/Registration

What is licensed where?

- The main Study 1200, 700 and 500 licenses are activated wherever you have installed the Sanako Server element.
- Any optional Study 700 activity licenses must be activated at every Study 700 teacher PC. Examples of such activities are Vocabulary Testing, MP3, Telephone and Pronunciation.
- Any optional Pronounce licenses must be activated at every individual teacher or student PC that has the Pronounce software installed.
- Any language Voice Packs must be activated at every individual teacher or student PC that has the voice pack software installed

It is extremely important that you also register every license to your own account. Firstly, if you don't then every time the user starts the software an "unregistered software" will appear in the system tray but more importantly you will be informed of any new licenses and software versions that have been released and you are entitled to.

1.3 Firewall Ports and Exclusions

The following ports need to be allowed.
- Port 5060 for audio data
- Port 15525 for screen data
- Port 15535 for remote control data
- Port 6310, 6311 and 6312 for command and control data

The following applications may need to be allowed for non-Windows firewalls.
- Student.Exe at all student computers
- Tutor.Exe at all teacher computers
- StudyServer.Exe at any computer or server with the Study Server installed on it

1.4 IP Multicast or Unicast

All command, control, audio and screen data can be performed using either IP multicast or unicast. The selection is made at each Tutor PC via the Tools – Preferences – Settings – Operating Environment window below.
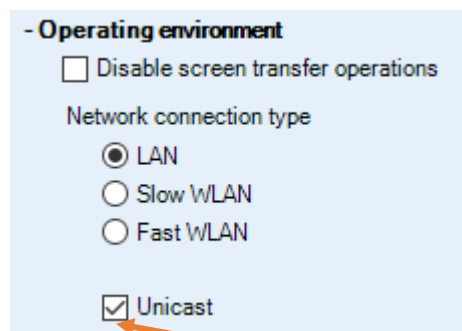
Click and select to use Unicast

Some network switches or firewalls may have certain packet filtering features which can prevent network traffic, including multicast packets. Please ensure that features such as IGMP V2 snooping are enabled and if using separate vLANs for teachers and students then you must allow multicast traffic between them.

The address space used for our multicast transmission is 230.0.0.0 – 239.255.255.255.

It is recommended that wherever possible the teacher and students for a classroom are connected to the same network switch in order to optimise both audio and screen data transfers. If this is not the case then the separate switches may need their configuration changed to allow multicast transmissions between them for the above address space.

2. Hardware Requirements

In general the Study solution is software-only and runs on any device running a Windows 7, 8 and 10 OS. For Study 700 and 1200 then every user will need a suitable headset to enable the audio communication features. Please remember that when it comes to headsets you generally get what you pay for in terms of audio quality and performance. If you buy cheap headsets then the language learning may suffer.

Sanako can provide high-quality headsets that are rugged and optimised within the Study software for audio levels to ensure a high learning experience.

If you are going to use your own headsets then there are some things that you must ensure.

- They do not have any in-line switch for muting the microphone. This would allow the students to switch the Mic off and then the teacher will not be able to listen or speak with that student.
- They do not have any in-line volume control. This would also allow the student to set the level to a minimum and then the teacher will not be able to listen or speak with that student.
- The headset and sound card combination do not require the use of Mic Boost. This kind of artificial amplification of the microphone will affect the performance of the speech recognition and subsequent scoring.
- The headset and sound card combination provides suitable side tone. This means that when the user speaks they will hear themselves in their headphones. This is vital when learning a language for both pronunciation and intonation.

2.1 Tutor and Student PCs

In general all that is required is a PC, Laptop or Notebook running Windows 7, 8 or 10 but the listed specification is.

- Windows 7, 8 and 10
- Microsoft .NET Framework® 4.0 or later
- DirectX 9.0c or later
- 100 MB of free disk space for installation
- 1024*768 display resolution with 16-bit colours
- AC97 or HDA compatible sound card
- Network Adapter, TCP/IP support required or 802.11 wLAN

2.2 Server (Licensing)

The StudyServer application can be installed to the Teacher PC if you are only using the software in that classroom.

If the software is going to be used in several rooms across the school or in a flexible dynamic manner then you should install the StudyServer application to a Windows Server. We do not require a dedicated server and you can use any existing server or virtual instance. We recommend Windows Server 2008 r2 and above.

2.3 Server (Shared Network Area)

In order to make the best of all the teaching and learning features within the solution then you will need to create a new folder on one or more of the existing shared network servers. Please read the following document for full details Shared network requirements for Sanako Study

3. Installation and MSI Deployment

The latest set of installers can be found at http://software.sanako.com/study/ and previous versions can be located here also.

If you are installing the software using EXE files then it is recommended that this is done whilst logged on as a local administrator to ensure that all components are registered correctly.

Here is a link to a Quick Installation Guide

3.1 MSI deployment

If you want to use our MSI packages then please ensure that you also deploy the prerequisites appropriate for the version of Study you are deploying.
Study V9 requires the following prerequisites;

- Microsoft .NET Framework V4.x
- Microsoft Visual C++ 2012 Redistributable
- Microsoft Visual C++ 2015 Redistributable
- Microsoft Managed DirectX

All the MSI packages can be download from http://software.sanako.com/study/study-installation-files-in-msi-and-zip-formats/

You could download the InstallPrerequisites.EXE file from the MSI download page which you can deploy if your system allows you to do this. This EXE includes all the necessary prerequisites to run Study.

It is possible to perform an unattended installation of the Study Student MSI package with the following command switches:

msiexec.exe /i /quiet /passive /qn "C:*Path To The MSI File*Student.msi"

4. Configuration

The installation and deployment of the software is only a part of the overall solution. The configuration and matching of the software to your network is vital in ensuring the best possible learning experience. The solution provides many ways to link and optimise the solution to your network and Sanako are always happy to provide help and advice.

4.1 Configuration file types explained

After deploying or installing the Tutor software you must launch the software and run the Tutor application so that it creates the initial files in the C:\ProgramData\Sanako\Study\Tutor folder on that local PC.

4.1.1 Teacher Configuration Files (.TCF)

These files are created every time you add a new Tutor. There will always be an Anonymous.TCF file by default. The TCF file holds the settings and network paths applicable to that teacher. The files can be edited using NOTEPAD.

4.1.2 Classroom Configuration Files and Templates (.CCF/.CCT)

These files hold the student layout for a particular room or laptop trolley etc. The files can be edited using NOTEPAD.
Please download and watch the following video to see [how to create classroom layouts](#)

4.1.3 Tutor.Settings File

At every PC that has the tutor software installed there will be a Tutor.Settings file in the C:\ProgramData\Sanako\Study\Tutor folder. This file holds all the settings made in the Tools – Preferences section of the Tutor PC – see section 4.2.

### 4.1.4 Audio Configuration Files (.XML)

During installation you are prompted to run the Sound Settings wizard. Alternatively you can run the wizard as show in the following video [Setting the Audio Levels](#)

4.2 Tutor Preferences

To set the preferences for the Tutor you need to go to the Tools – Preferences option from within the Tutor application.

The Tutor tab allows you can define software language, set the autoscan period, thumbnail sizes and define folders used by the software using the standard UNC convention e.g. \\server_name\path\folder
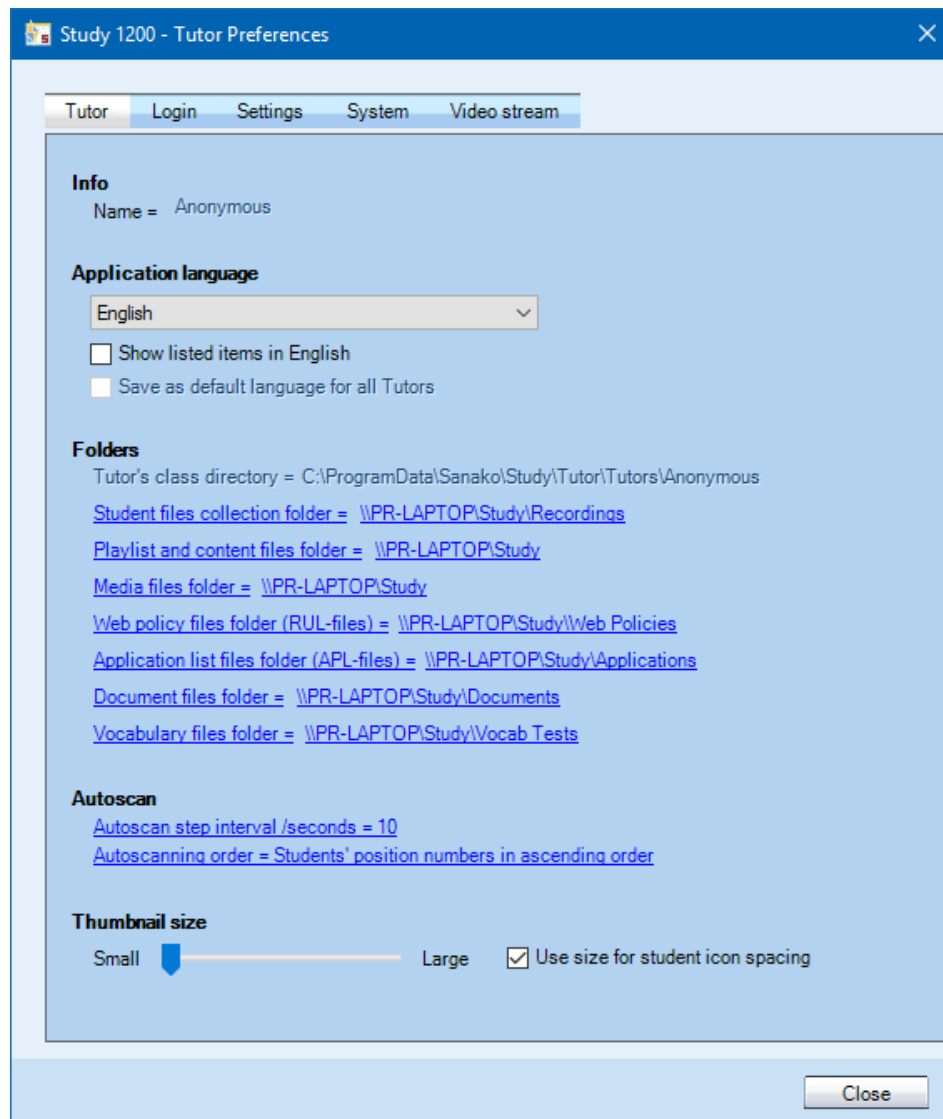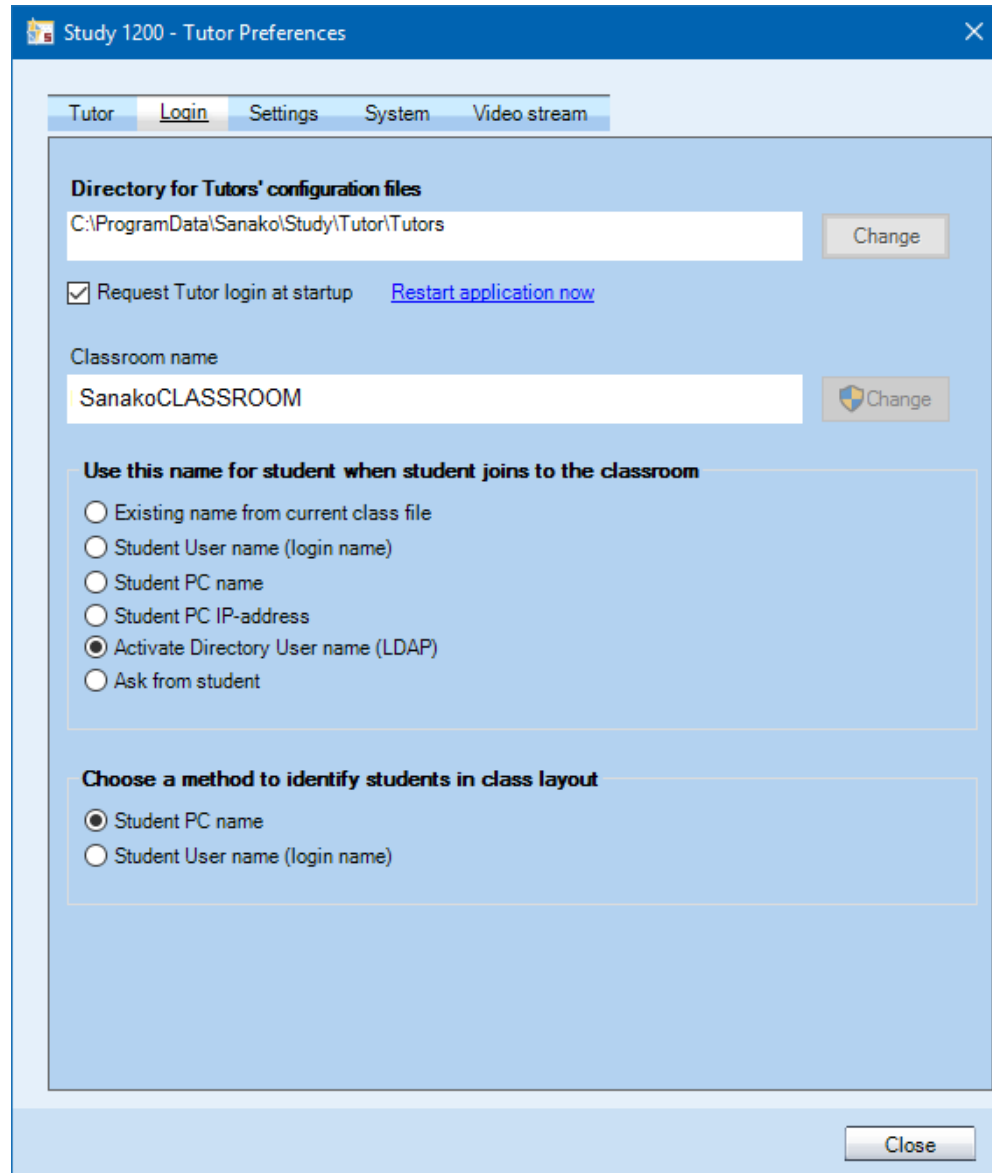

a. **Student files collection folder** is where student recordings and homework (all files) are collected to..

b. **Session and content files folder** is where students can access lesson files once they are added to the playlist.

c. **Media files folder** is opened by default when any file explorer activity is launched within the tutor application.

     d. **Web policy files folder (.RUL files)** is opened by default when you are opening or saving RUL files in web browsing activity.

     e. **Application list files folder (.APL files)** is opened by default when you are opening or saving application lists used by the application block feature.

     f. **Document files folder** is opened by default when you are adding document to be launched with the Reading practice activity.

The **Login** tab defines where the Tutor configuration files (.TCF) can be found and defines how the students are identified.

It is recommended that the LDAP and Student PC name options are selected as shown.

The settings tab has the following options.

Activity – allows you to select which activities you want to appear in the teacher drop-down menu.

Audio – allows you to stream the audio from the Tutor PC instead of the default which is to copy the audio file to the local student hard drives. You can also select Stereo Mix if you want to hear all the audio when monitoring a student and not just their microphone. The VAD (Voice Activation Detection) can be used to determine when audio data is sent from the student to the teacher.

File distribution and collection – allows you to send files to students from non-shared network folders and defines the default format when collecting student recordings.

Internet – sets how the student Internet blocking will function.

Screen Transfer – defines how the sent screen will be displayed.

Text-To-Speech – sets which voice packs (if any) are used as the default and the settings to be used as default.

Thumbnail / Snapshot – sets the time in seconds for screen monitoring.

Operating environment – allows you to set the network type and whether to use multicast or unicast protocols.

4.3 Adding new Tutors

When you launch the Tutor software now it will display all of the Tutors that may have already been created. If there are no other Tutors created yet then select Anonymous. When the Tutor software opens then please do the following.

- Click on the PLAYLIST icon and then click OK to browse for the Anonymous folder in the server playlist location and click OK again. You will see that in the anonymous playlist folder on the server there will now be the following sub-folders automatically created; A, B, C, D, E, F and TUTOR.
- Click on the Tools – Preferences option in the menu.
- In the first tab that opens please set the paths for the Student files collection folder to the Collection folder on your server.
- In the login tab select the LDAP option as this will result in the student's given name appearing under their PC icon in the Tutor software.
- Close the Tutor application.

You should now look to create individual Tutor configuration files and the easiest way is to browse to the Tutor Configs folder on the server and make a copy of the existing Anonymous.TCF file.

- Rename the copied file to **teachername**.TCF where the teacher name is the actual name for the teacher you want to create an account for.

- Edit the new file using NOTEPAD and change the values shown below in RED text. Wherever you see the Anonymous value you need to replace with the given teacher name. Please ensure that you have created a sub-folder in the Playlists server folder for that teacher.

    ```
    <?xml version="1.0" encoding="utf-16" standalone="yes"?>
    <Tutor Name="Anonymous" LastClass="Template class"
    ClassDirectory="\\server\Sanako\Classroom Layouts" Culture=""
    AutoscanInterval="10" AutoScanOrder="1" RemoteStretchMode="0"
    SessionFilesPath="\\server\Sanako\Playlists\Anonymous"
    StudentFilesCollectionPath="\\server\Sanako\Collection "
    MediaFileFolder="" WebPolicyFileFolder="" DocumentFolder=""
    VocabFolder="" ExamCollectionFolder="" ExamTestFolder=""
    ApplistFileFolder="" ThumbNailSizeClassroom="{Width=80, Height=60}"
    ThumbNailSizeThumbWin="{Width=320, Height=240}"
    ThumbnailWindowLocation="{X=563,Y=163}"
    ThumbnailWindowSize="{Width=803, Height=512}"
    ThumbnailWindowState="0" ThumbnailWindowMode="0">
     <ProgramShortcuts />
    </Tutor>
    ```

- Launch the Tutor application and select that Tutor.

- Click on the PLAYLIST icon and then click OK to browse for the playlist location and click OK again. You will see that in the teacher playlist folder on the server there will now be the following sub-folders automatically created; A, B, C, D, E, F and TUTOR

Repeat the process of copying the Anonymous.TCF file and editing it for all the teachers you need to create a login for.

4.4 Student software options

Once the student software is installed/deployed then the defaults are;

1. It will automatically run for all users after login
2. It will start maximised for all users with the full player GUI
3. The student can use the basic features of the student application without being connected to any teacher for self-access purposes

If you want the software to start minimised to the system tray only then you need to change STRING value called Start minimized in the HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Sanako\Study\Student\Settings branch from 0 to 1.

For 32-bit OS please browse to HKEY_LOCAL_MACHINE\SOFTWARE\Sanako\Study\Student\Settings

If you don't want the student to software to start automatically and only when the Student application is run then please delete the StudyStudent entry in the HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run branch.

5. Troubleshooting

5.1 FAQs

5.1.1 The Tutor software says Verifying when launched

If the Tutor software displays the Verifying message and gets no further then please try changing the following in the teacher registry.

Change the DWORD value called ConnectByName in the HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Sanako\Shared Components\CMC branch to 0.

For 32-bit OS please browse to the HKEY_LOCAL_MACHINE\SOFTWARE\Sanako\Shared Components\CMC branch

Change the STRING value called Server in the HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Sanako\Study\Tutor\Settings to the DNS or IP of the server on which you installed the Study Server element.

5.1.2 How can you make the Tutor software always open as Study 500, 700 or 1200

When you launch the Tutor application you may also see a screen that asks you to select the type of Tutor you want to run if you have added multiple types of licenses to the Study server – Study 500, 700 and 1200 as shown below.
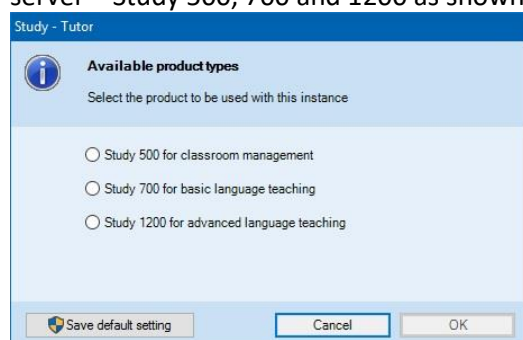
If the room that you are using the software in is always going to be used as say a language lab then you could select Study 1200 and save as the default setting. If a room is only ever going to be used for general ICT classroom management then select Study 500 and save. The alternative to defining the default or presenting the user with this option box is to add different Tutor shortcuts to the All Programs menu for each type that you have. All as you need to do is to edit the existing Tutor Shortcut to create the following.

For Study 1200 the Target value of the shortcut can be changed to "C:\Program Files (x86)\Sanako\Study\Tutor\Tutor.exe" **/1200**

For Study 700 the Target value of the shortcut can be changed to "C:\Program Files (x86)\Sanako\Study\Tutor\Tutor.exe" **/700**

For Study 500 the Target value of the shortcut can be changed to "C:\Program Files (x86)\Sanako\Study\Tutor\Tutor.exe" **/500**

5.1.3 Can the students install the software at home?

Yes. If you want to allow students to download the student software for home use then this is license free and they can simply go to the following page http://www.sanako.com/en-gb/study-lite/

If they don't have a suitable Windows device then they can browse to https://recorder.sanako.com/ which has similar features but they MUST browse to this page using the Google Chrome Desktop Browser and not IE, Safari, Edge and Firefox for example.

5.1.4 How can I install new Tutor positions to have the same settings as existing ones?

Take a copy of an existing Tutor.Settings file from a teacher PC (in the C:\ProgramData\Sanako\Study\Tutor directory) and then when you install another Tutor simply launch the Tutor application at that position and then replace the created file with this saved one.

5.1.5 Can you monitor dual screen student positions?

Yes. For a 64-bit OS – Open the registry on the Tutor position and go to the HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Sanako\Study\Tutor\Settings\LAN\Screen branch.

For a 32-bit OS – HKEY_LOCAL_MACHINE\SOFTWARE\\Sanako\Study\Tutor\Settings\LAN\Screen

Delete the BlockSize and CaptureDevice DWORD entries completely.

Add a STRING value called CaptureDevice with a value of -1 to view both monitors (0 for just the main monitor and 1 for just the second monitor).

Add a STRING value called BlockSize with a value to 64 to account for doubling the data being sent. You can also try a value of 128 to see which gives the better screen monitoring results.

5.1.6 Why has Internet Explorer stopped working at the student positions?

If you are having problems launching or browsing using Internet Explorer or if your DISABLE INTERNET feature is not working then please read the link below for an explanation of how our BHO Managed Add-On works.

[The New Sanako Browser Helper Object BHO Document for V7.x and above](#)

5.1.7 Why don't my students appear as active at the teacher interface?

If the students do not appear then try the following.

*   Add a DWORD at every student position called ConnectByName in the HKEY_LOCAL_MACHINESOFTWARESANAKOShared ComponentsCMC branch with a value of 0
*   Change the Server name STRING value in the HKEY_LOCAL_MACHINESOFTWARESANAKOStudyStudentSettings branch to the IP/DNS of the PC/Server that has the Study Server installed to it – normally the Tutor PC in a single classroom installation.
*   Go to the task manager and end the Student.Exe process
*   The student should then appear in the Corridor of the Tutor

Basically this change is required when the default broadcast packet method for connecting to the corridor is being blocked by something. The change results in a targeted TCP packet being sent.

Please note that if you have a 64-bit OS then the registry values stated above will be located in the HKEY_LOCAL_MACHINESOFTWAREWow6432NodeSanako branch