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THE CLASSROOM MANAGEMENT SOFTWARE

*NET CONTROL*<sup>2</sup>  
Classroom  
Professional  
SmallClass

**INSTALLATION AND CONFIGURATION  
GUIDE**



**Revision 7.0**

Based on version 26.5

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## General information

The family of **Net Control<sup>2</sup>** classroom management products, **Net Control 2 Classroom**, **Net Control 2 Professional** and **Net Control 2 SmallClass**, is specially designed for easy control, monitoring, and management of computers in local networks. It is specially designed for educational environments.

The software consists of two main parts – **Teacher Module** and **Student Module**. *Professional Edition* in addition uses **Connection Server** module, which coordinates communication between teacher and student computers, and stores settings and license information.

You need to install the student component of the software on each student computer that will be managed with **Net Control<sup>2</sup> Classroom** software. *The Teacher Component* should be installed on each computer that will be used to control other computers. Both components may be installed on the same computer.

For *Professional Edition*, we recommend installing **Connection Server** components on a “server” computer. The “server” here means a computer in the local network that uses Windows operating system. Server operating system is not required, desktop editions such as Windows 10 or 11 can also be used. The server computer should be accessible by all student and teacher computers in the network; we recommend assigning a static IP address to the computer where Connection Server components are installed, though this is not required. If you use dynamic IP addressing (DHCP) for the server, you need to address it in the teacher and student module by the server’s network computer name (DNS name).

Connection Server is used in Net Control 2 Professional edition only for establishing communication between teachers and students, it does not process network traffic between these parties and therefore does not require a wide network bandwidth or high productivity CPU. As the hardware configuration for Connection Server components, we recommend using the “recommended” by Microsoft hardware configuration for the operating system installed on the server computer.

For Classroom and SmallClass editions, we recommend starting installation with the Teacher module, and install then the software on student computers.

For Professional Edition, we recommend starting installation with the Connection Server component, teacher and student modules can be installed after, in any sequence.

The *Teacher Component* should be installed manually using the standard installation package or MSI package (for Professional Edition).

The *Student Component* may be installed using one of the following methods:

manually on each student computer, using the standard (.exe) installation package;

deployed automatically through Microsoft Windows Active Directory/Group Policies service and using a special MSI distribution package. The special MSI package is available by request for registered users;

deployed through Microsoft Windows Active Directory or SCCM scripts, using the standard installation package (.exe) in a non-interactive mode, pre-configured with command line parameters;

the built-in Net Deploy tool allows centralized deployment of the software in a network with a domain, if administrator tools are enabled and several other conditions met as described below, in [Chapter O](#) of this manual.

## Hardware requirements and software environment

Microsoft Windows 11, 10, 8.x, all 32- and 64-bit editions for x86-64 CPUs; or Microsoft Windows Server 2012-2024;

Ubuntu 20, 22, 24

macOS (OS X) 10.5 – 15 (Sequoia).

Virtual Machines (Microsoft HyperV, Oracle VirtualBox, VMWare) with one of the specified above operating systems as a "guest" system.

Terminal sessions (RDP, Multipoint Server, nComputing).

Modern multi-core CPU (Intel Core i3/AMD Ryzen 3 or better), 8 GB RAM for the Student Module, 16 GB RAM for the teacher module; 500 MB of free disk space (minimum).

100 Mb/s wireless or Ethernet local network.

The software uses the same style-and-look for the teacher and student components on all platforms, though the set of features differs, and certain settings or features can be absent on different platforms.

## A. Windows. Installation with the standard installation package

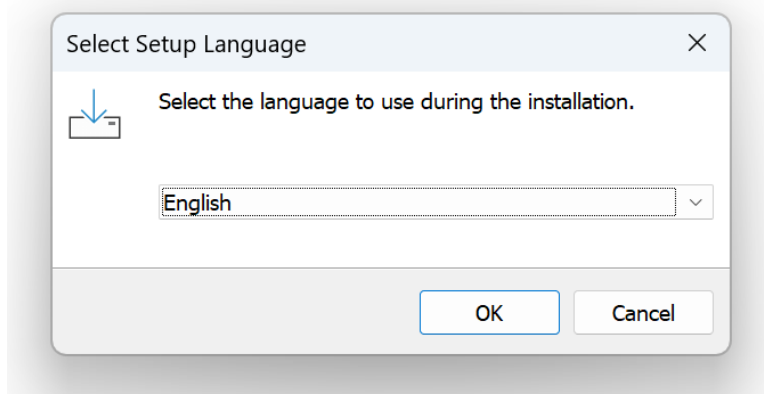
To understand the basic principles of Net Control 2 Classroom configuration, we recommend reading this chapter even if you are planning some other ways of installation.

For Classroom and SmallClass editions, we recommend installing the software on the teacher computers first, it is not required though.

For Professional Edition, we recommend installing the Connection Server component first.

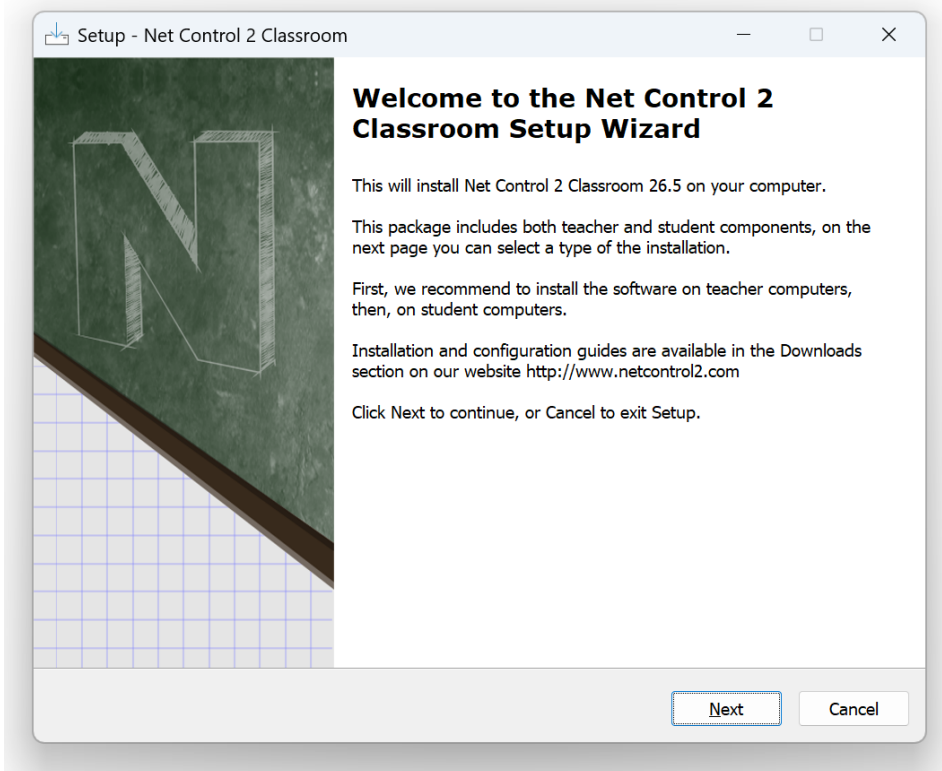
The installation package is common for all components, you can install the software on Teacher, Student and Connection Server computers in any combination. The type of installation is configured during setup.

1. Run the Net Control 2 Installation Package.



Select the language of installation.

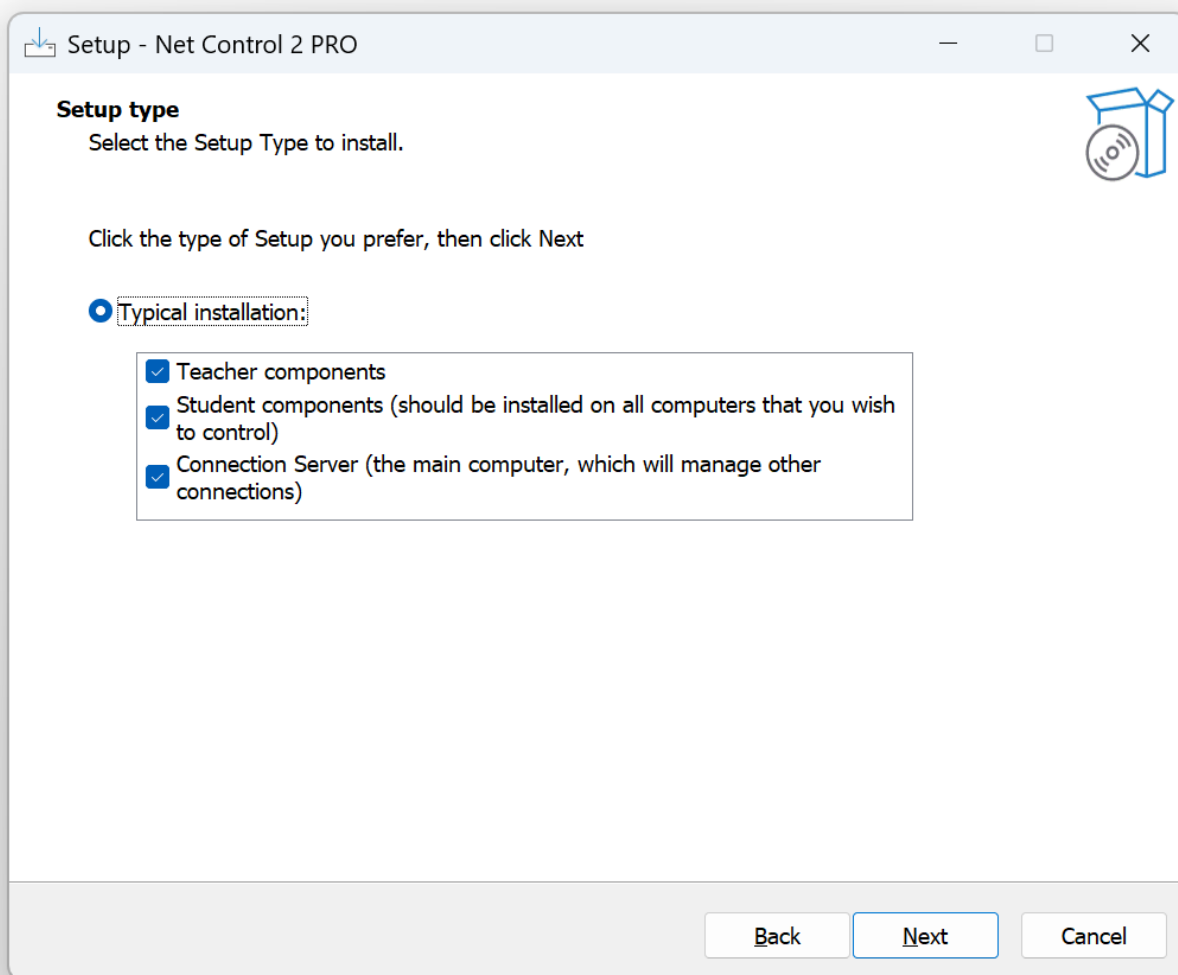
**Please note!** The selected language will be set up as the default language of the software, if supported by the software. Currently, the standard installation package includes language interface for English, Arabic, French, Italian, Portuguese, Russian and Spanish languages. Other languages may be available in packages from local distributors.



**2. Read the End-User License Agreement carefully and accept it if you agree with its terms.**

### **3. Select Components**

On the **Setup Type** page select the necessary components for installation:



Typically, **you need to select only one component**, based on the role of computer. Though multiple components can be technically installed on the same computer, if required by the planned use.

select **Teacher Components** if you are installing the software on a teacher computer:

select **Student Components** if you are installing the software on a student computer, or if this computer should be controlled remotely from another teacher module.

Select **Connection Server** if you are installing the software on a server computer, this option is available only in Professional Edition.

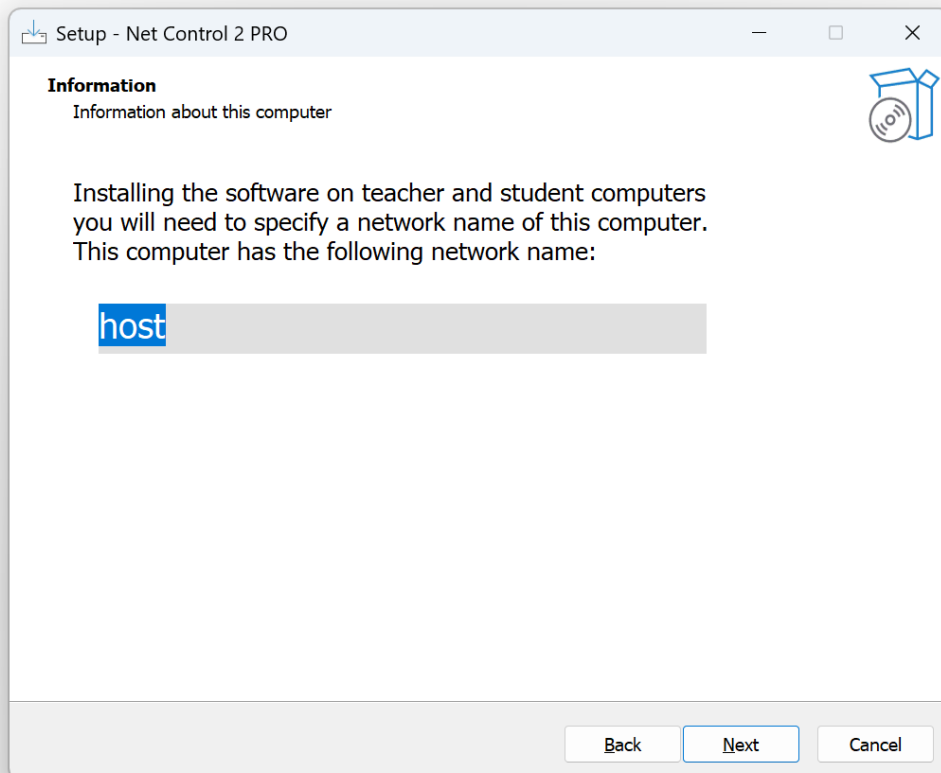
**TERMINAL SERVER ONLY:** If you are installing the software on a terminal server for use with terminal sessions, one installation is necessary for all sessions of the server. Installing teacher components on a terminal server makes them available to all users in all terminal sessions. If you need to limit access to the teacher module from student sessions, we

recommend setting up a teacher password for the teacher console after installation, alternatively you can change Windows access privileges for the teacher module file (teacher.exe file in **C:\Program Files [(x86)]\Net Control 2 Classroom** folder, may be changed in the process of installation). Only one teacher module can work within one terminal server.

#### 4. Select a path to the installation folder.

#### 5. Computer name information (Teacher or Server module installation only).

If you are installing the software on a teacher computer with Classroom or SmallClass editions (teacher components are selected), or Connection Server component with Professional edition, the setup program will display a network computer name for this computer:

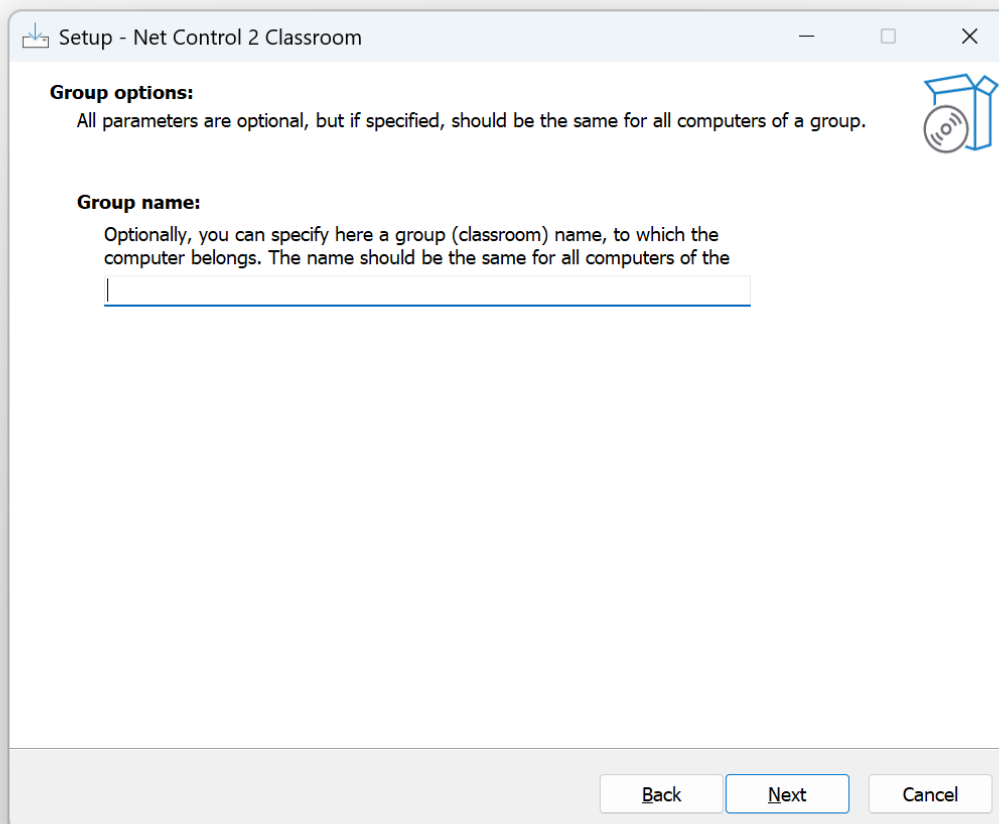


**This information is provided only for your reference**, and can be obtained at any moment in Windows Settings (the **System** page), or after installation of the teacher module, on the About page, after clicking the IP address and DNS name button.



In Net Control 2 Classroom and SmallClass editions, you need to specify this computer name in the student module settings or during installation. In Net Control 2 Professional, the specified DNS name of the Connection Server computer should be provided in the process of installation of teacher and student components.

## 6. Group name (Classroom Edition only)



Net Control 2 Classroom may be used in an environment that consists of several individual classrooms, and therefore the software allows dividing student computers into groups

(virtual classrooms).

Each teacher can work with one or multiple groups.

Each student computer belongs to one group only. And by default, when it is not configured specially, all students belong to the group "Default".

It is important to keep the same strategy for all computers of one group, assigning them the same group name and other connection parameters. Otherwise, incorrectly configured student computers may be invisible for teachers.

The most common situations are described below.

If the software is used within one classroom only, one teacher works with a permanent set of student computers; and all students are controlled by the same teacher, you may leave the default group settings as-is. In this case all students will belong to "Default" group.

If you have several classrooms within one local network, student computers should be connected to one or several teacher computers, we recommend assigning a unique group name to each group of student computers (a classroom or class). Please keep the same name for all computers of one group.

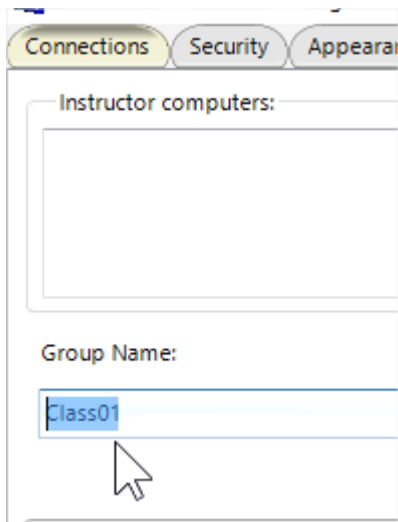
If students move from one classroom to another, and you can assign them to one, permanent group, you can form groups using teacher-initiated connections, as described in the [Chapters G](#) and [H](#) of this manual. The default value can be set up in the process of installation in this case.

More complex grouping features, like assigning a student computer to multiple groups, grouping students by a Windows login name etc., are available in Net Control 2 Professional Edition.

**If you have set up an incorrect value for Group Name** for student computers, it is always possible to change settings after installation, remotely from the teacher module, if you have remote access to the student computers in your teacher console (select student computers in the teacher console, then click **N – Options – Client Options** the main menu command); or if you don't have remote access to the student module, on the student computer click Net Control 2 icon in the System Tray (area next to the system clock)



and then click Configure button in the Student Console that appears. Group Name field is on Connections tab of Net Control 2 Client Configuration window:

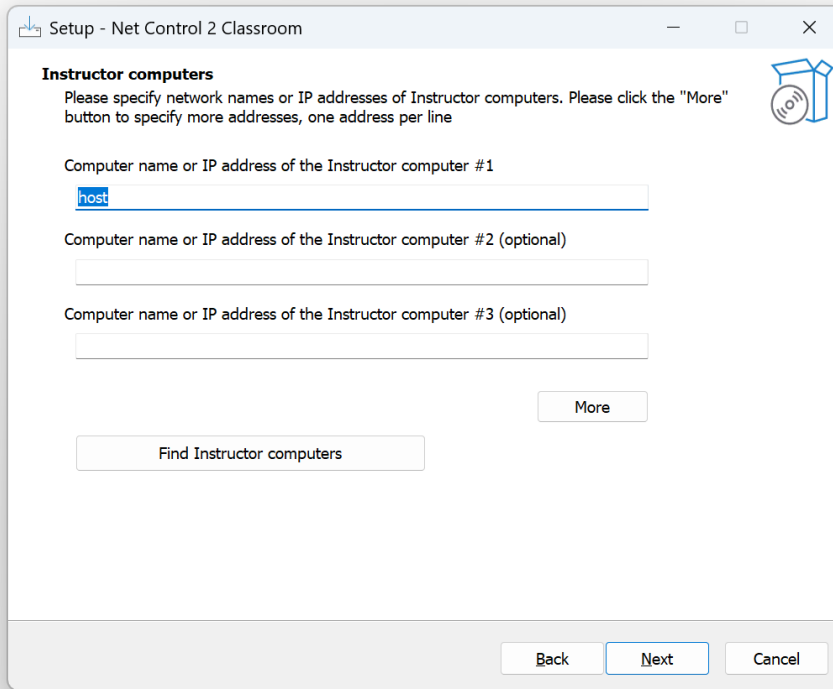


More information regarding student module settings that may be changed after installation is available in [Chapter 1](#) of this manual.

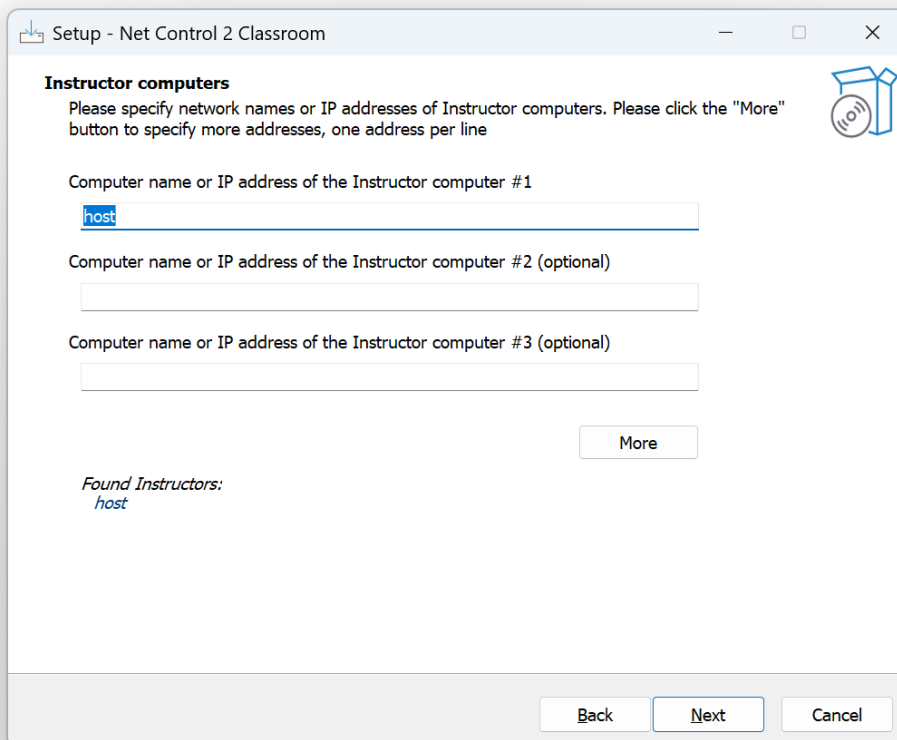
## 7. Classroom and SmallClass Editions. Student module installation only: addresses of teacher computers.

When installing the software on student computers, at the next step you will need to enter an IP address or a network name (DNS name) of all teacher computers that should have access to this student computer.

By default, you can specify up to three addresses, if you need to set up more teacher computers, click **More** button and specify as many teacher computers as you need, one address per line.



If the teacher module is currently running on teacher computers in the network, you can use the **Find Instructor computers** button in order to search the network. Found teacher computers are specified as follows:



**Do not use IP addresses for addressing teacher computers, unless you are sure that your network is configured for static address networking.** In domain network environment, you may need to provide the teacher computer name in a fully-qualified DNS format, e.g. ***host.mydomain.local*** .

The teacher computer's DNS name is shown in the setup program during teacher module installation (see step 5 above).

If you made a mistake in the process of installation, you can change parameters on student computers at any moment, configuring them in Net Control 2 Client Configuration window, on each student computer, as described in the previous paragraph, in **Instructor Computers** section of **Connections** tab.

## 8. Configuration options.

If the teacher module components are selected for installation, you can set up on this page how the teacher module should handle its settings: the connections list, profiles and related information. The settings can be stored:

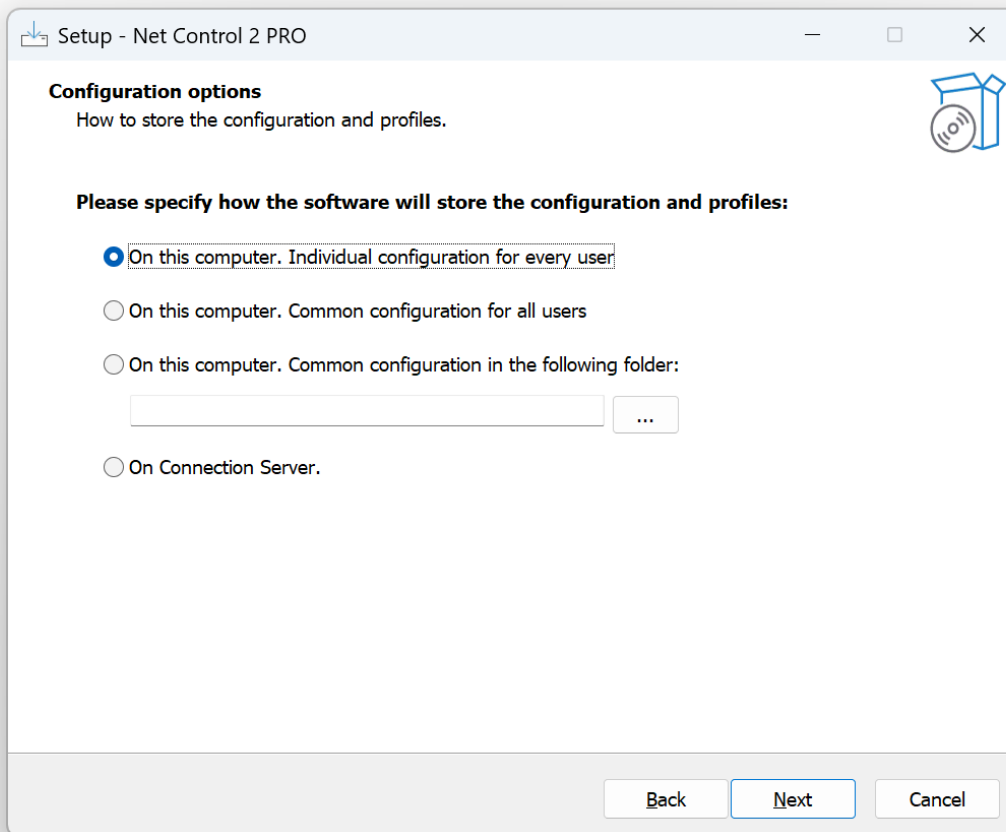
On this computer, and settings will be individual for each user account on the computer (stored in C:\Users\[Your\_Login\_Name]\AppData\Roaming\Net Control 2 folder);

On this computer, preserving the same settings for all users on this computer (the settings are stored in C:\ProgramData\Net Control 2 folder);

On this computer, in the custom specified folder;

For Professional Edition, you can also store settings on Connection Server, so settings are consistent for the same teacher account across any computer they log in to.

Please note that certain settings, such as the last used mode of a command, are always stored on a per-user basis.

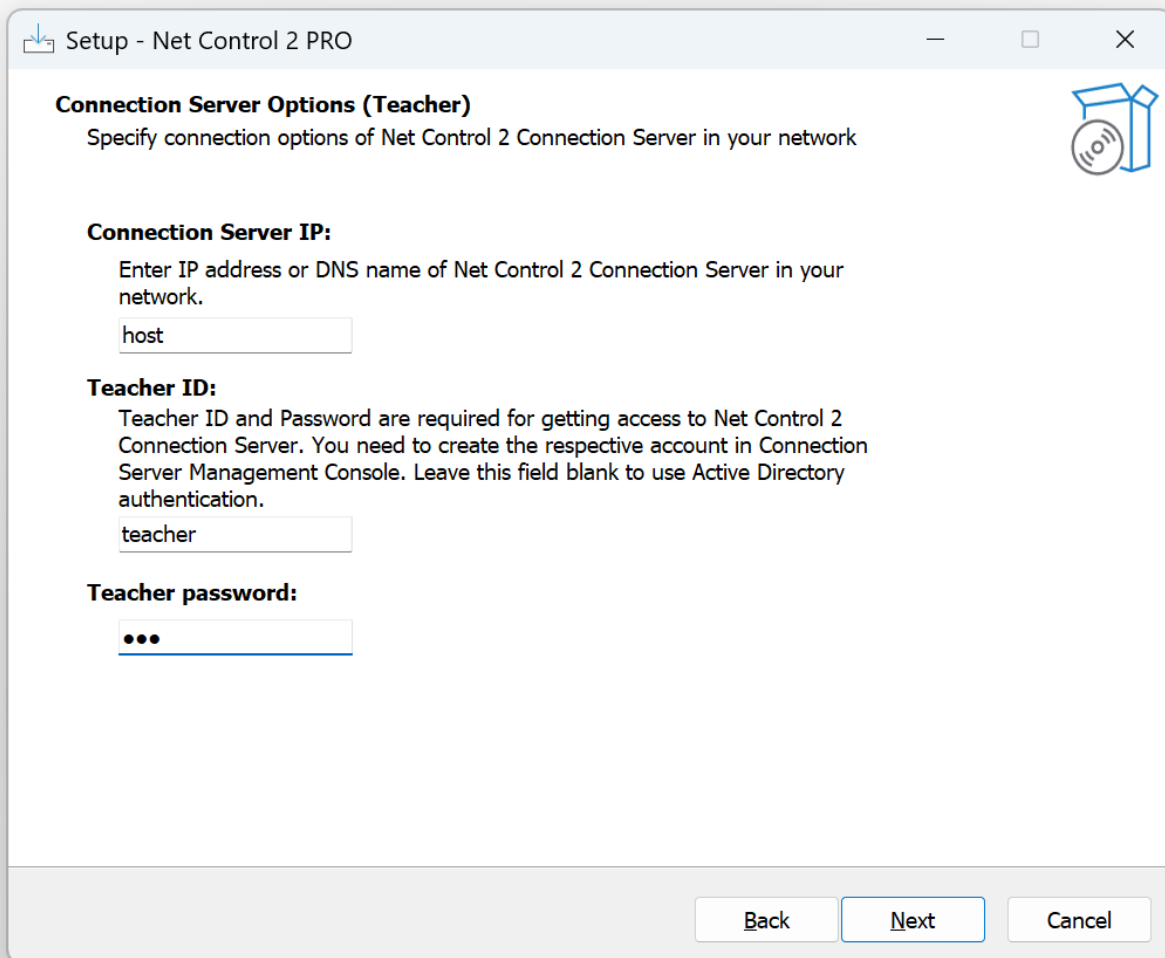


## 9. Professional Edition: Connection Server address.

This step is available only if teacher or student components were selected for installation. The setup program will prompt for Connection Server address and credentials.

Connection Server computer may be addressed either by IP address or by network computer name (DNS name). If your Connection Server computer uses static IP addressing, we recommend using IP address of the server. If your network uses dynamic IP addressing but you can assign a static IP to the Connection Server computer, we recommend doing so and use an IP address instead of DNS name.

For **Teacher Components**:



The screenshot shows a window titled "Setup - Net Control 2 PRO". The main heading is "Connection Server Options (Teacher)" with a sub-instruction: "Specify connection options of Net Control 2 Connection Server in your network". There is a small icon of a box with a coin on the right. The form contains three sections: "Connection Server IP:" with a text box containing "host"; "Teacher ID:" with a text box containing "teacher"; and "Teacher password:" with a text box containing three dots. At the bottom right are three buttons: "Back", "Next", and "Cancel".

**Connection Server IP:** specify here an IP address or DNS name of a computer, where *Server Component* (Net Control 2 Connection Server) is installed.

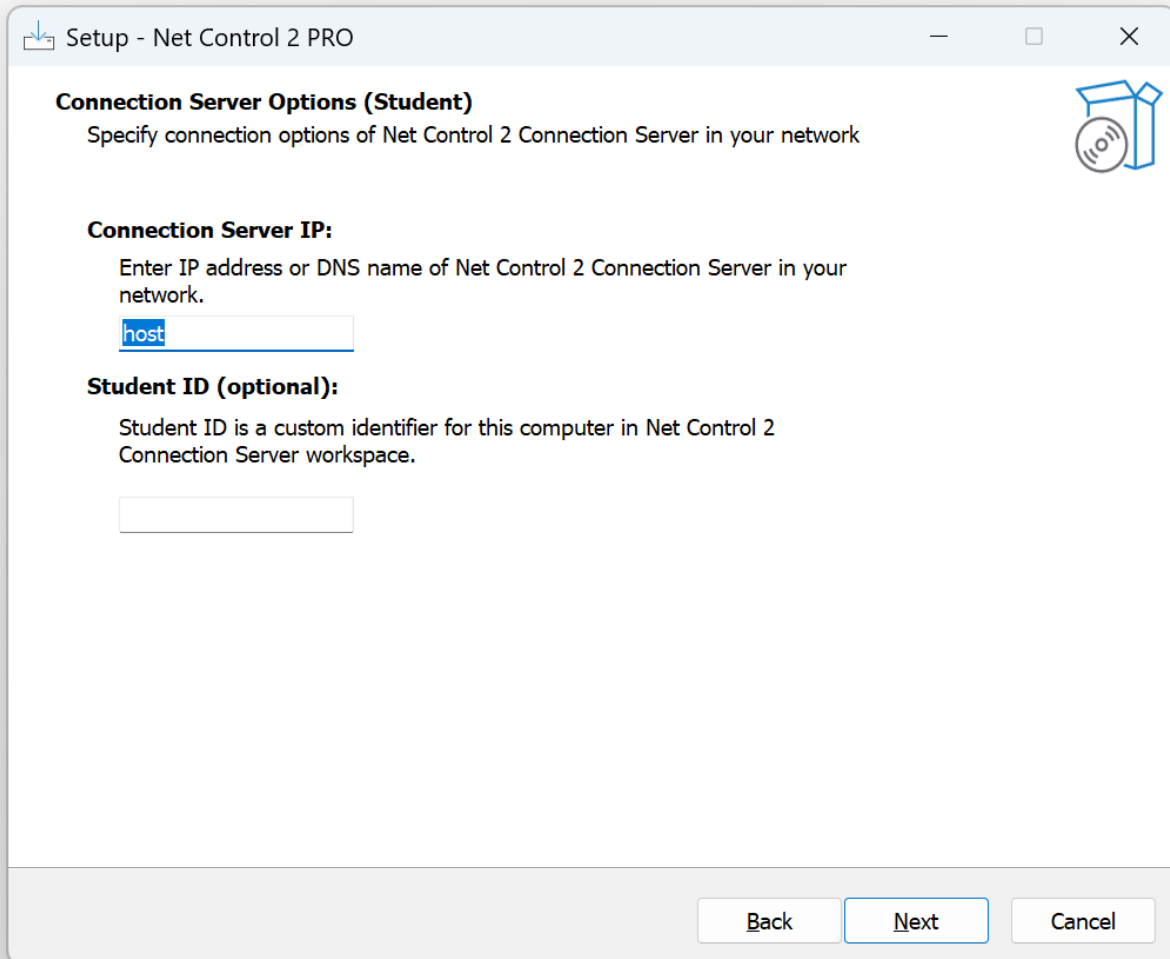
**Teacher ID** and **Teacher password:** a login name and password of a **teacher account** on Connection Server.

Net Control 2 PRO supports custom teacher accounts and authentication by Windows accounts. Custom teacher accounts should be set up in Connection Server Management Console as described in [Chapter F](#), before installation of the teacher components. You can leave this field blank and provide the teacher account credentials later, in the teacher module directly (in the teacher console use the main menu command **N – Options – Options; Connections** page).

Alternatively, instead of using custom teacher accounts, you can use Windows

authentication, where teachers are authenticated in Net Control 2 Connection Server by their Windows login names. In that case, you need to leave **Teacher ID** and **Teacher Password** fields blank. For more information about teacher accounts please refer to [Chapter F](#).

For **Student Components**:

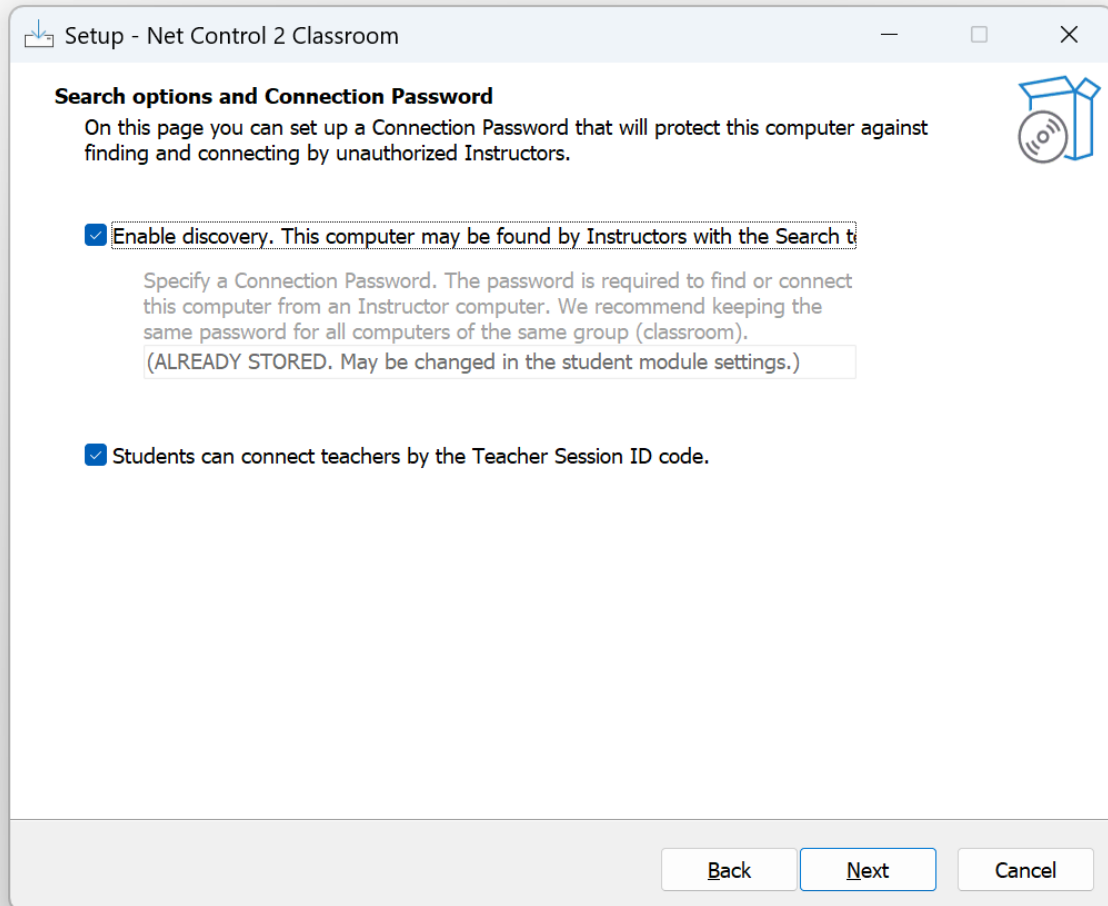


The screenshot shows a Windows-style window titled "Setup - Net Control 2 PRO". The main heading is "Connection Server Options (Student)" with a sub-heading "Specify connection options of Net Control 2 Connection Server in your network". There is a small icon of a box with a Wi-Fi symbol on the right. The "Connection Server IP:" section has a text box containing "host". The "Student ID (optional):" section has an empty text box. At the bottom, there are three buttons: "Back", "Next", and "Cancel".

**Connection Server IP:** specify in this field an IP address or DNS name of the computer, where Connection Server is installed.

**Student ID (optional):** a custom identifier for this student computer or a group of student computers. We recommend to use the same Student ID for a group of student computers (a classroom, for example) for building groups on Connection Server by referencing computers in the group by Student ID.

## 10. Net Control 2 Classroom. Search options and Connection Password (Student module installation only).



If you have not configured all teacher computers in the previous paragraph, or if you need to give teachers ability to add students to the group permanently or temporarily (for a lesson only), you can enable discovery for these student computers.

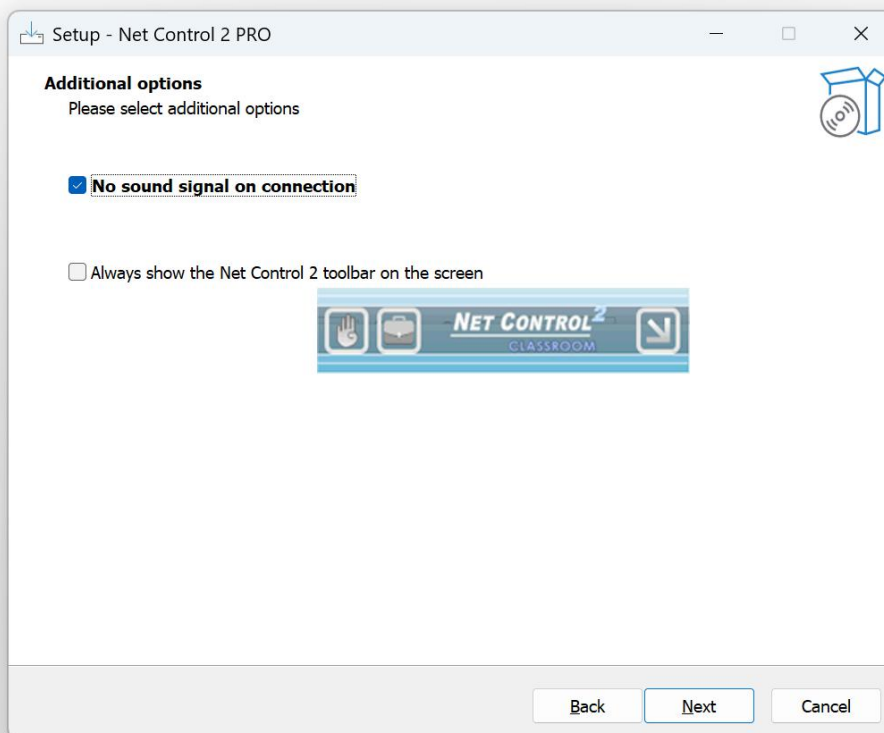
When enabled, teachers will be able to scan the network for available student computers and add them to the connections list.

For security reasons, when enabling this option, you must set a connection password.

Teachers who do not provide this password in the search dialog will not be able to find or connect to this computer. We recommend to set up the same password for a group of computers (e.g. a classroom), because searching computers in the network a teacher can specify only one password at a time.

Alternatively, or in addition, you can enable the student-initiated teacher search feature. In this case, students will be able to connect to a teacher themselves using a special Teacher ID code provided by the teacher. For more information about this feature, see [chapter H](#).

## 11. Additional options (student module installation only).



**No sound signal on connection** – when it is **not** enabled, the student module will alert with a sound signal and text notification when a teacher computer is connecting to it. Enable this option to suppress the sound signals and leave text notifications only.

**Always show the Net Control 2 toolbar on the screen** – when enabled, the student module will display Net Control 2 Student Module toolbar on a screen of the student computer. The toolbar **is always present** on the screen as a popup window in the top area

of the screen. The toolbar provides quick access to “Raise hand” and “Lesson Resources” features of the student console, as also quick access to Student Console itself.

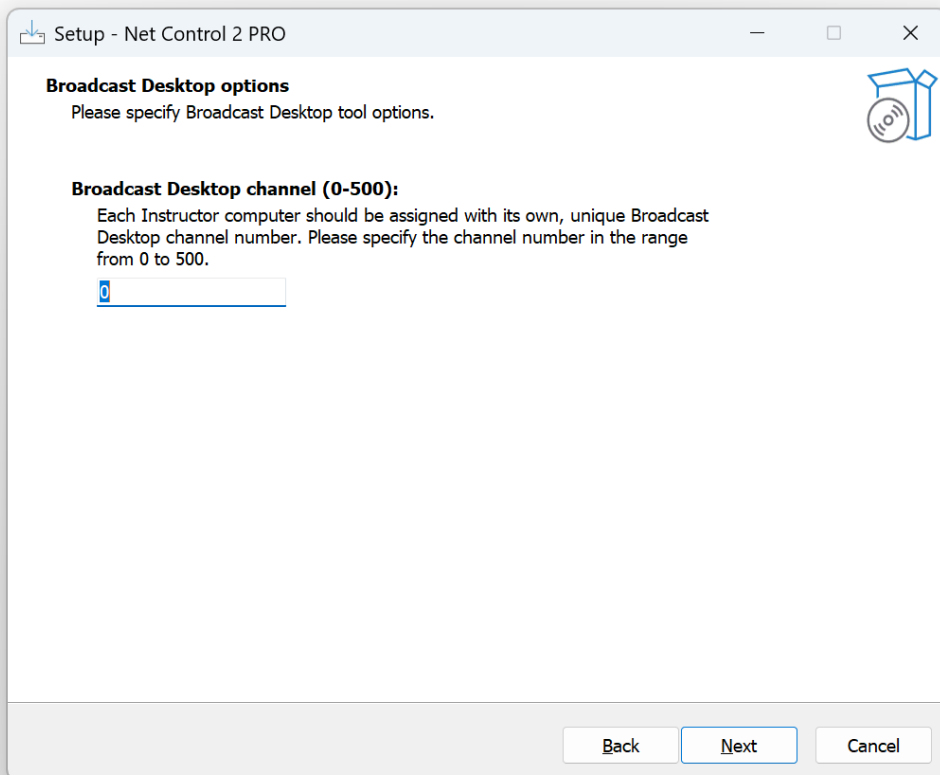
## 12. Broadcast Desktop options. (The teacher module installation only).

Broadcast Desktop tool by default uses special multicast protocols for sending data over network to multiple recipients, this keeps bandwidth to a minimum but allows interference between multiple teachers broadcasting on the same network port.

To prevent interference, assign a unique Broadcast Desktop channel to each teacher module.

**If you have only one classroom in the network, use the default value – 0.**

**If you have multiple classrooms in the network, assign a unique number for each teacher module installation: 0, 1, 2 and so on.**



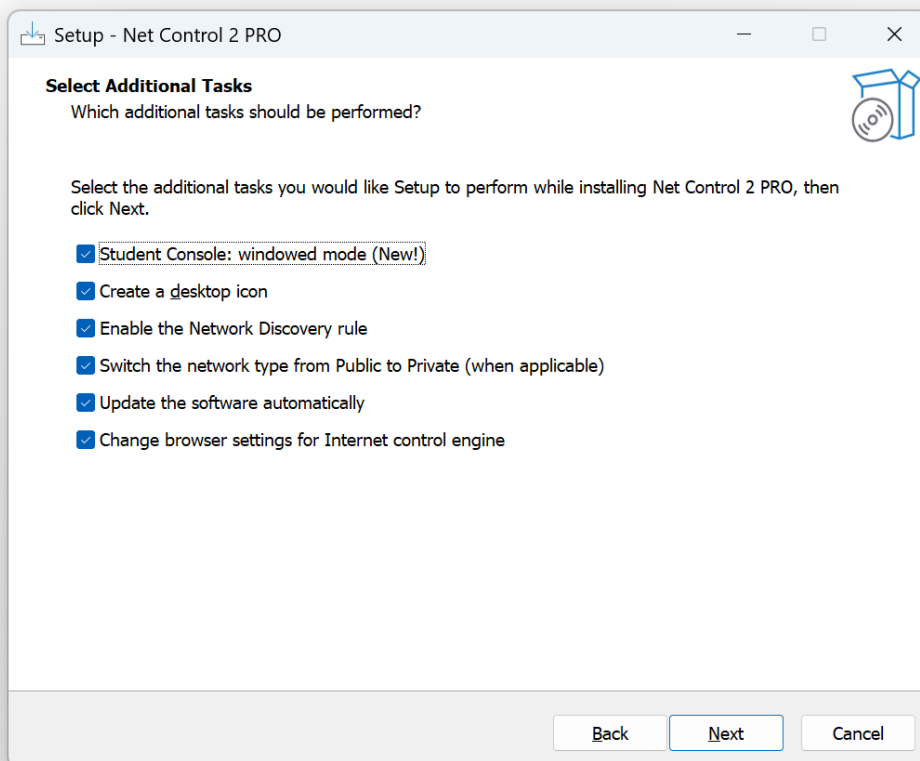
The broadcast desktop channel is mapped internally to a set of network ports used by the teacher module. Assigning different channels to different teachers ensures that each

teacher module uses its own set of network ports for broadcasting.

After installation, you can change the channel and other broadcast settings in the Teacher Console, clicking the main menu command **N -> Options -> Control Options**; on Control/Broadcast page.

### 13. Additional tasks and options.

The set of options may vary depending on teacher or student module installation.



Student Console: windowed mode – enabled by default – sets the new look for the student console. If you prefer the classic, attached to the left side of the screen look of the student module, uncheck the option.

Create a desktop icon – creates desktop icons for the teacher module, or for Connection Server Management Console module (when applicable).

**Enable Network Discovery Firewall Rule** – enables the Network Discovery rule of Windows Firewall in Windows 7 and higher. **This rule is required** for connectivity between computers in a local network and is enabled by default for “private” and “work” network profiles of Windows Firewall.

**Switch the network type from Public to Private (when applicable)** – when enabled, switches the Windows network profile from Public to Private. Windows firewall will block any incoming connections on the teacher computer, when the network type is Public.

**Update the software automatically** – enables automatic update of the software over the Internet. When enabled, Teacher Component will check the update server every 14 days for available updates, download, and install them automatically when necessary. This feature is available in the software for registered users only.

Please note that, because certain functions require matching versions of the teacher and student modules, we do not distribute minor updates through this channel. The automatic update is reserved only for critical updates that require immediate attention.

**Change browser settings for Internet control engine** – modern browsers use different techniques to prevent interception of DNS requests, which are required for Internet control engine operation on student computers. Enable this option to allow the software to change browser policies and disable features that prevent DNS request interception.

**Compatibility mode (direct connections support)** – not recommended for new installations. Turns on direct connections mode for the teacher and student modules. Direct connections were used in previous versions of Net Control 2 Classroom and this option left for compatibility reasons. If you need to use Net Control 2 Classroom version 12 in an old environment.

**Restart the computer after installation.**

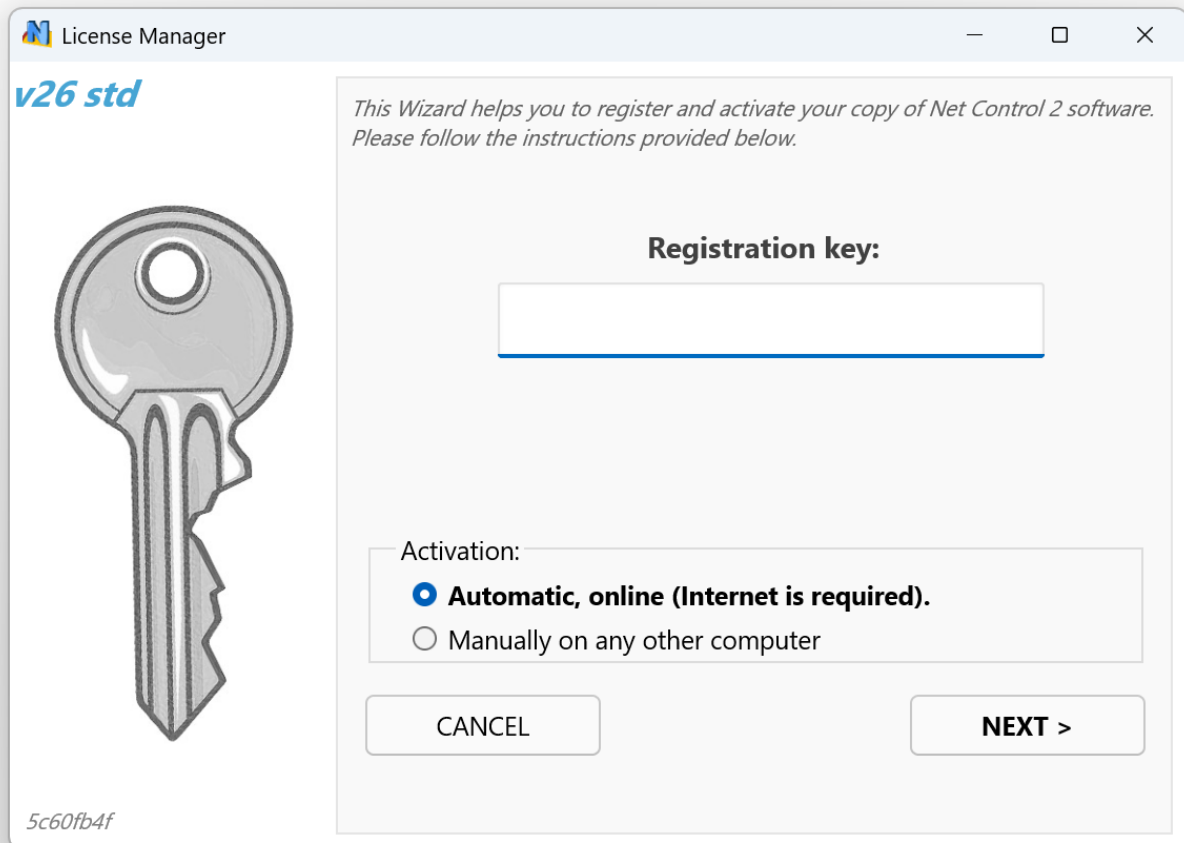
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## B. Registration and activation.

When the teacher module starts for the first time in Net Control 2 Classroom or SmallClass, if the software has not yet been registered and activated, it will open License Manager to activate the software.

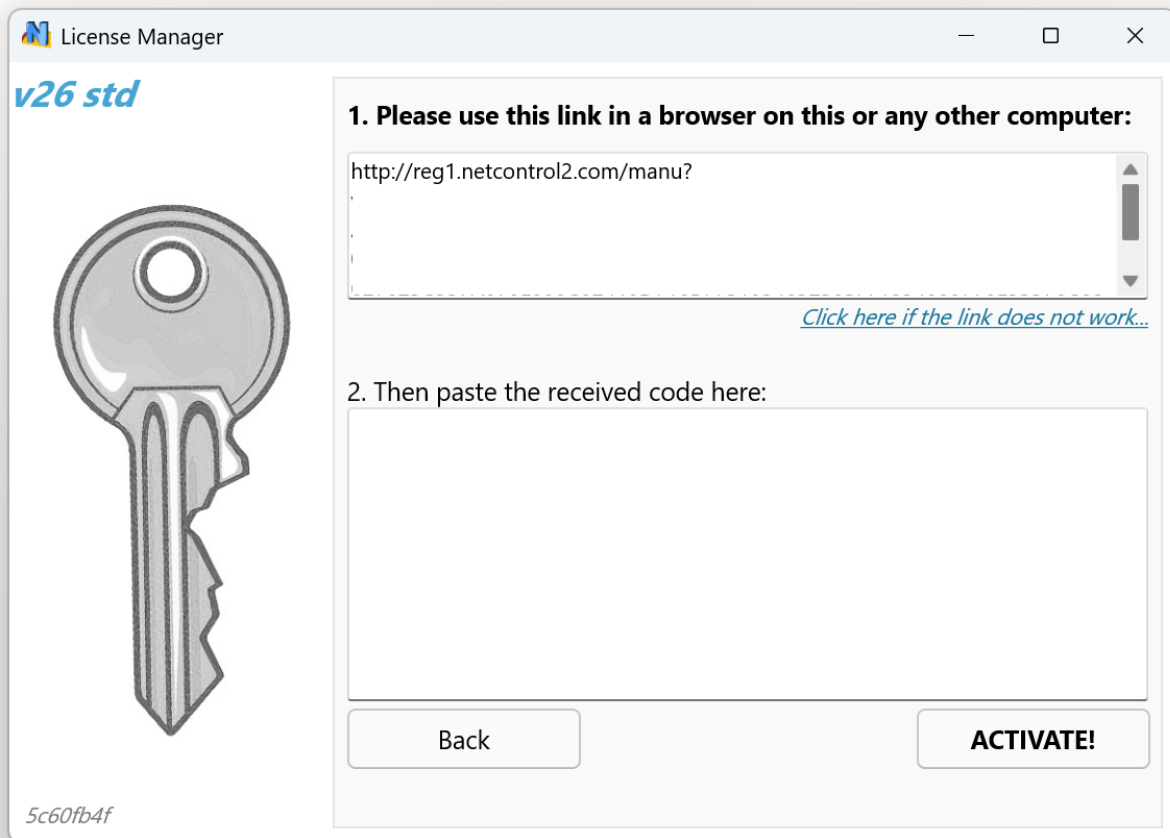
In Net Control 2 Professional, activation is only required on the Connection Server computer, using either License Manager or the About tab in Connection Server Management Console.

If License Manager was not opened automatically, you can run it from Windows Start menu instead: Start - All Programs – Net Control 2 Classroom (SmallClass, Professional) – License Manager.



In the opened program enter your registration key, exactly as specified in your license. The registration name is not required at this step. If the computer is connected to Internet, use "Automatic, online (Internet is required)" mode and click Next button. Activation will be complete automatically.

If the computer where the teacher module is installed does not have an Internet connection, you can activate the software through any other computer, tablet or smartphone connected to Internet. In this case, on the teacher computer use "Manually on any other computer" activation option, click Next.



At the next step, copy the link provided in the upper field to the device that is connected to Internet, open the link in any browser and get an activation block. Copy the received activation block back to the License Manager window and paste it into the field below. Click Activate button, the software should be activated immediately.

In rare cases, when the activation server is unavailable, does not work for some technical reasons, it is possible to perform a pre-activation of the software without Internet access. This procedure allows using the software some time without activation, but the activation is still necessary and we recommend completing it as soon as possible after pre-activation. To pre-activate the software, on the step 1, select Manually on any other computer method, then on the step 2, click "If you cannot activate due to server issues" link at the bottom of the window.

In the window that appears, you will need to provide your registration name exactly as specified in the license, and a recovery code that is also provided in the license at the bottom of the document.

After the activation is complete, close License Manager program and open the teacher module again.

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## C. Professional Edition. Connection Server Management Console

### ***Connection model***

**Net Control 2 Professional Edition** uses the client-server connection model, which requires creation of a special connection server in the network ("*Connection Server*"). This server acts as an intermediary between student and teacher computers and helps the software operate more effectively in large networks consisting of multiple VLANs.

Each student computer may belong to one or more groups (e.g., classes or classrooms). To create groups, assign student computers to groups, and manage teacher accounts, Connection Server includes the Connection Server Management Console.

If a student computer was assigned to neither group, it becomes a member of the group "Default".

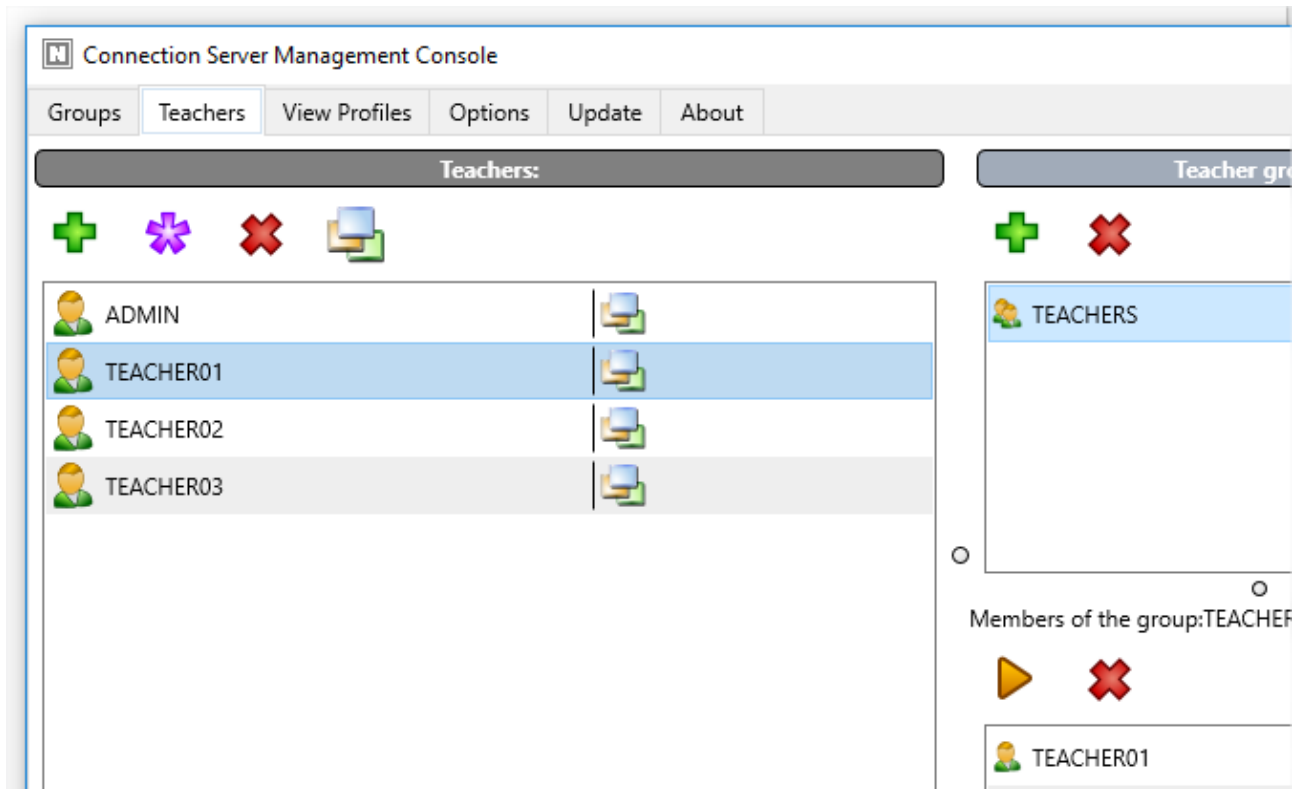
Each student computer may be connected to several teachers at a time.

Before installing and setting up teacher and student computers we recommend installing Connection Server components on a server computer or a computer that will act as a "server" in the network. Connection Server does not require a server operating system and may be installed on desktop versions of Windows (please see [Hardware Requirements](#) chapter).

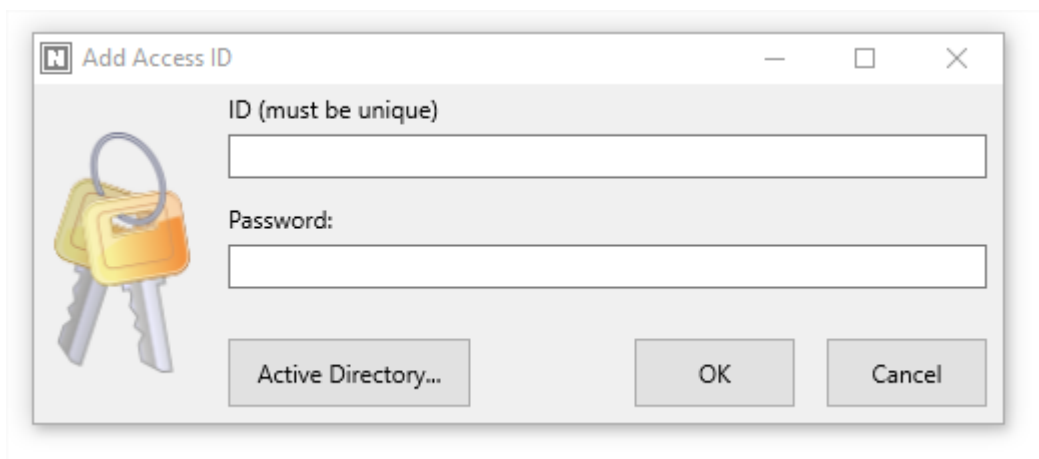
### ***Teacher accounts***

For security reasons, all teachers connecting to the Connection Server must be authenticated. Therefore, before using the teacher module, you need to create one or more teacher accounts that will have access to the server.

On *Connection Server* computer, open **Connection Server Management Console**: click Windows Start menu command **Start -> All Programs -> Net Control 2 PRO -> Connection Server Management Console**



On **Teachers** tab of Connection Server Management Console window, at left pane ("Teachers"), click **Add** button to create a new teacher account.



At this step, you can create *a custom teacher account*, providing some teacher ID and password; or choose *a Windows user account* from Active Directory database.

For Windows-based authentication, you can use individual user accounts or user groups.

We strongly recommend using Windows logins for authentication on Connection Server only in networks with a domain, if Active Directory services are enabled on all teacher and connection server computers.

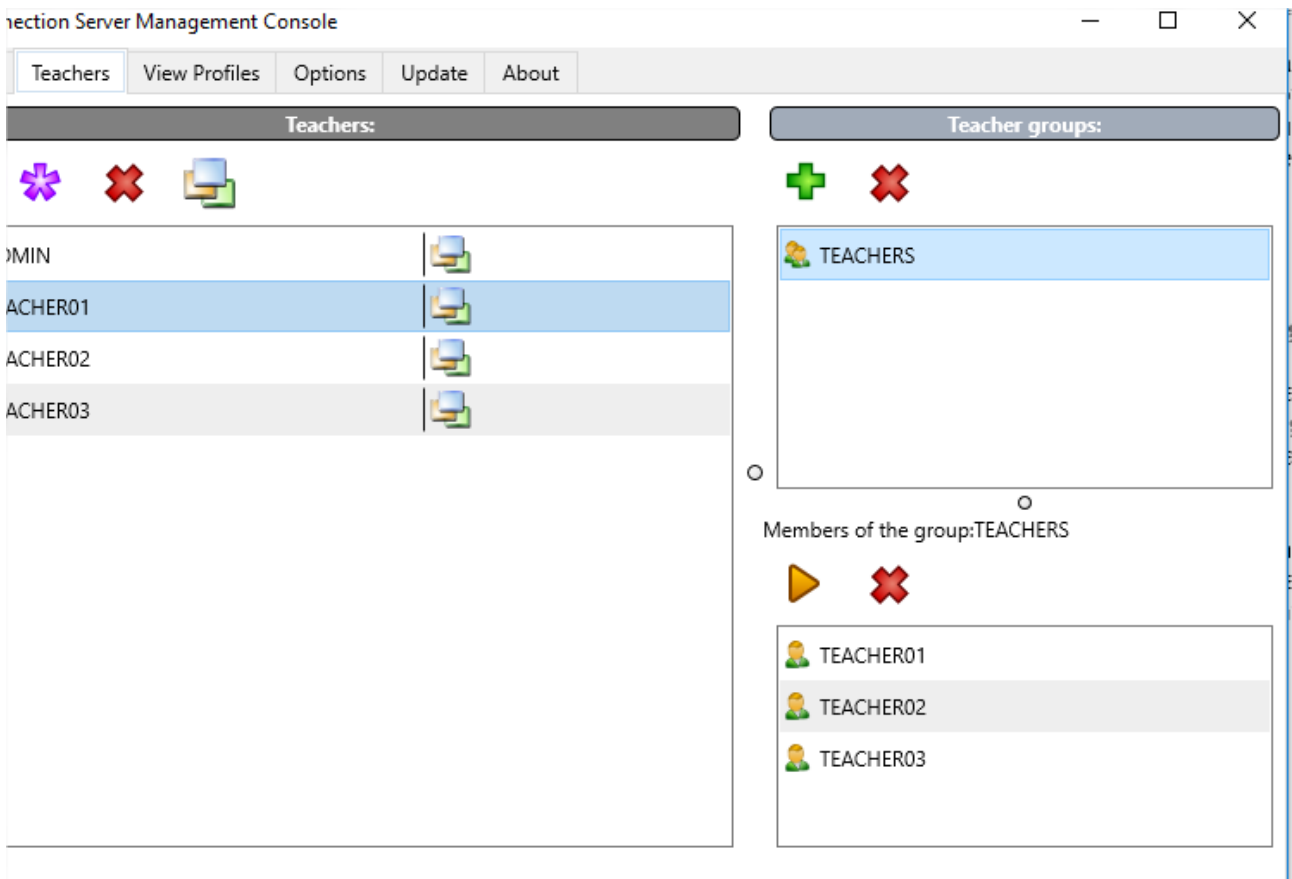
For networks without a domain we recommend creating a custom account for each teacher that will be connected to NC2 Connection Server.

Adding a Windows user group to teacher accounts grants all members of that group access to Connection Server as teachers. Only explicit members of the group are allowed: for example, a user, a member of Active Directory user group A, which is itself a member of group B, will not be allowed to access Connection Server, if only group B is added to the list of teachers.

### Teacher groups

Optionally, on the same Teacher tabs, on **“Teacher Groups”** pane you can manage teacher groups.

Teacher groups join several teacher accounts, providing a common alias for all these accounts. Teacher groups may be used on *Groups* tab for setting up teacher access privileges to individual Net Control 2 groups; teacher groups do not have passwords and therefore cannot be used to authenticate the teacher console.

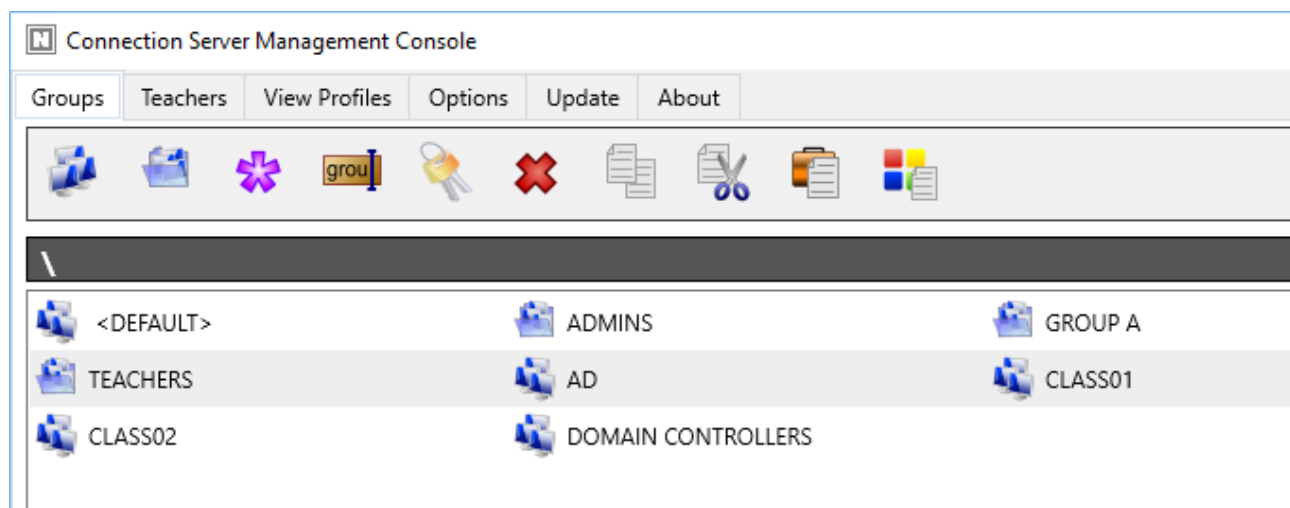


To create a teacher group click **Add** button in Teacher Groups section. To move teacher accounts to this group, select the group in Teacher Groups list; then select teacher accounts at left pane and click **Add** button in "Members of group" section of right pane.

## Groups

On Groups tab of Connection Server Management Console, you can manage groups. A group contains a list of student computers or users. Groups may be placed to *containers*, making it possible to organize a nested structure of groups.

A special "**<Default>**" group includes all students connected to this connection server.



### The top toolbar provides access to the following functions:

**Add group** – adds a new group in the current container and opens Group Editor.

**Add container** – creates a new container. Containers are equivalent of folders in Windows file system, e.g. you can open containers and add new groups there.

**Edit** – modifies currently opened group.

**Rename** – renames the selected group or container.

**Access permissions** – changes access permissions for a selected group. By default, all teachers have read access privileges to new groups, can open them in the teacher console.

**Delete** – deletes a group or container.

**Copy** – copies selected groups to the Clipboard;

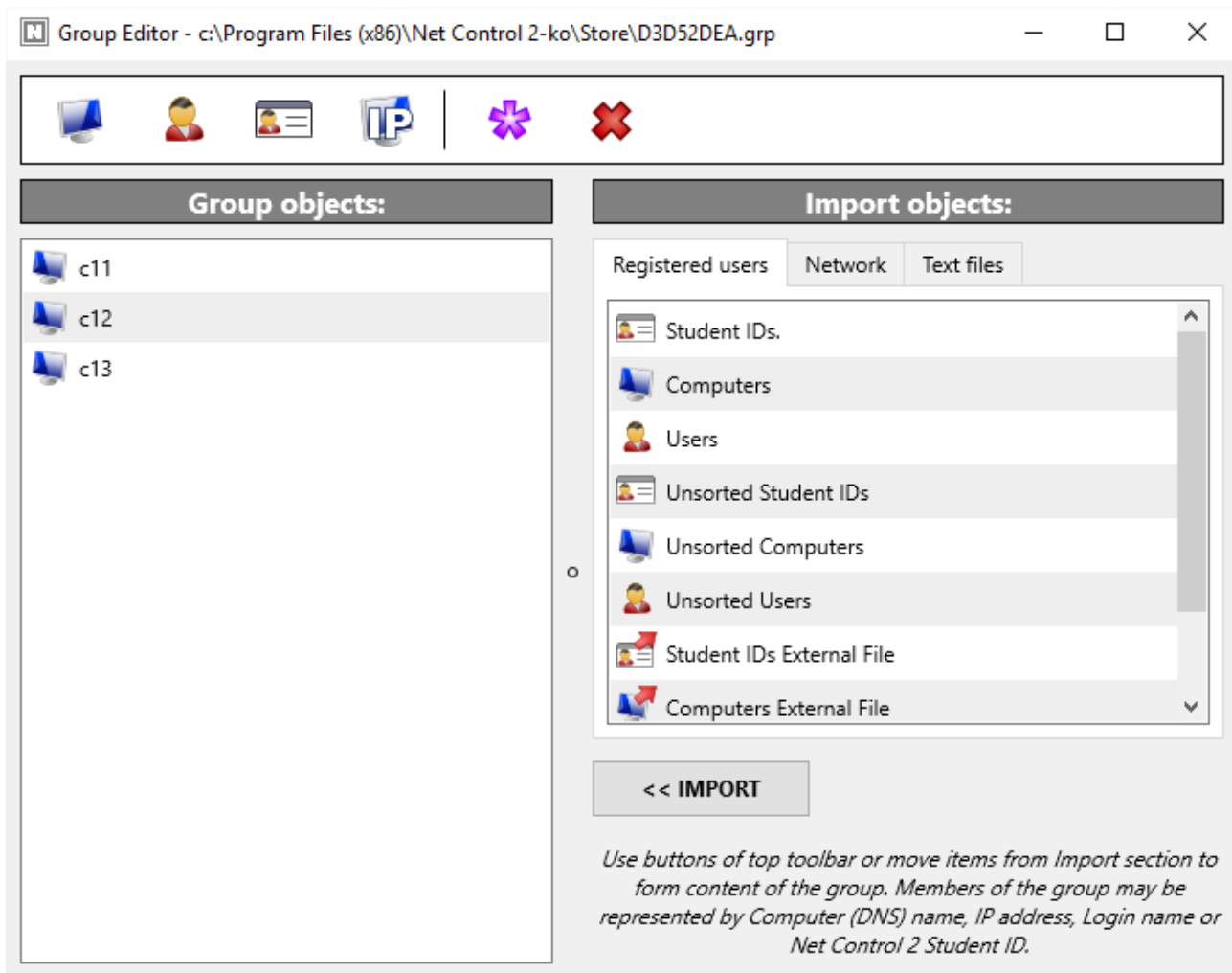
**Cut** – cuts selected groups to the Clipboard;

**Paste** – inserts selected groups from the Clipboard.

**Import from Active Directory** button provides a simple way of importing computers from Active Directory Organizational Unit database.

## Group Editor

After clicking **Add group** button on top toolbar on *Groups* tab of Connection Server Management Console, and specifying a name for the new group, you are switching to **Group Editor** window, where you can add members of the group.



A group may consist of:

**computers**, addressed by a DNS name, IP address or a custom Student ID parameter  
or  
**users**, referenced by their login name.

**To add an item to the group**, click a respective button on the top toolbar:

**Computer name** – adds a new connection to the group referenced by the computer (host)

name.

**User name** – adds a new connection to the group referenced by the user login name, i.e. once a user logs in to any student computer with the specified login name, that computer becomes a member of the group (while the user is logged in).

**IP address** – adds a new connection referenced by IP address.

**StudentID** – adds a new connection referenced by *StudentID* parameter. StudentID is an optional identifier that can be assigned to student computers during installation or in the student module settings. The same Student ID may be assigned to multiple student computers; in that case, all computers sharing that Student ID will be placed in the group.

**Rename** – renames the object selected.

**Delete** – deletes the object selected from the group.

To simplify group creation, you can also use the import tools in the Import section (right pane):

**Registered users** tab contains list of objects (StudentIDs, Computers and Users), which were connected to the Connection Server earlier. To add objects to the group, select them and drag-drop to the left pane.

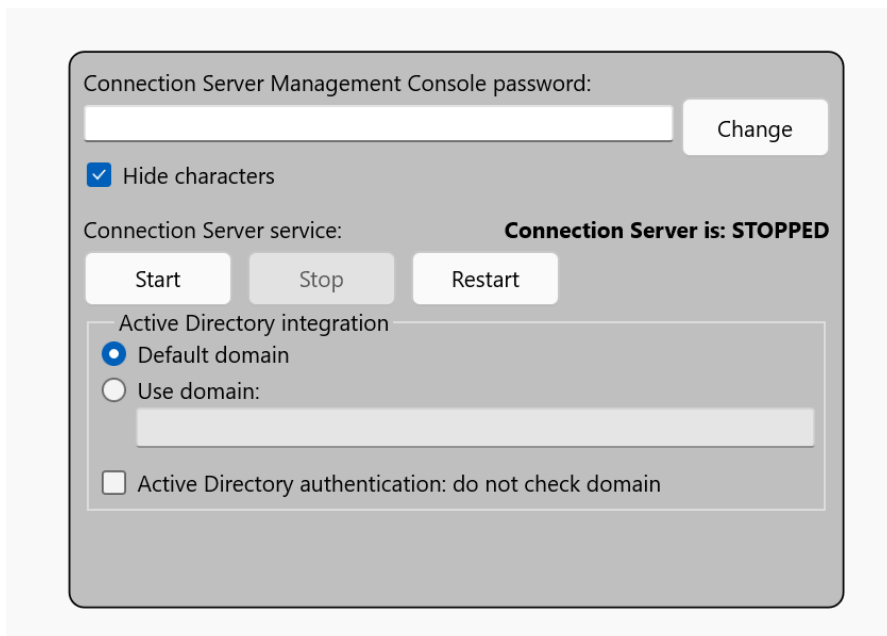
**Student IDs External File, Computers External File, Users External File and IPs External File** items can be used to link the group to a text file. In this case, group members of the specified type are loaded from the text file when the connection server starts. For example, using this feature you can create dynamic groups via external scripts that build groups according to a custom algorithm.

**Network** tab – provides access to the Network Neighborhood. To import computers from this list to the group drag-drop them to the left pane.

**Text files** tab – here you can open any text file and import elements of the file to group.

Close Group Editor to save changes.

## Options tab



**Management Console Password** field enables password protection for opening Connection Server Management Console on this computer.

Here you can also manage Connection Server service and obtain current status of the service: click **Start** button to start the service, **Stop** button to stop the service and **Restart** button to restart the server.

**Active Directory authentication: do not check domain** option enables authentication of teachers by login name part only, omitting the domain name part, where this login account is created. For security reasons, we strongly recommend using this feature for special cases only, when teachers may belong to different domains or domains and workgroups at the same time. **The recommended value for this option is disabled.**

If there are multiple domains configured in your network, the server may be unable to determine the exact domain, which it should connect for AD authentication requests, in this case you can specify the exact domain name in the **Use domain** field.

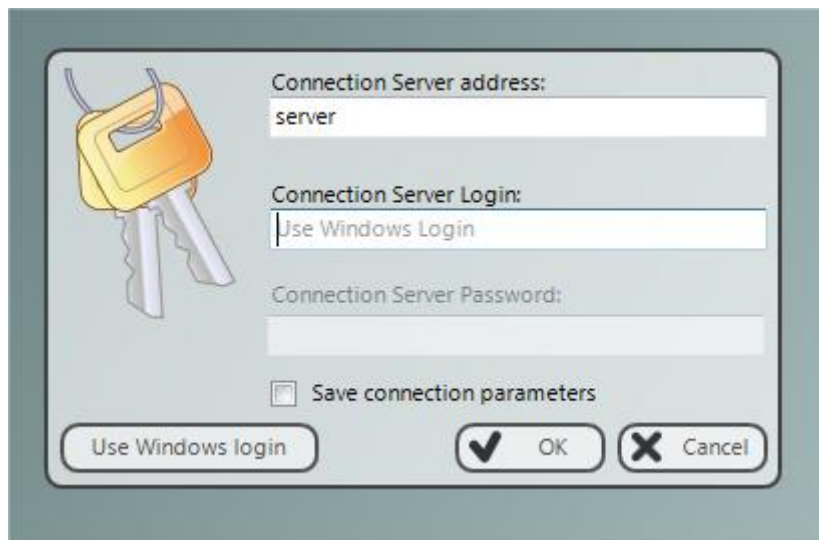
## D. Professional Edition. The teacher console – first start

To run the teacher module use Net Control 2 PRO icon on Desktop or in Start menu – All Programs – Net Control 2 PRO folder.

### 1. Teacher login credentials.

If the Connection Server address and login credentials were correctly configured during installation, the teacher console will open. Otherwise, if the credentials were not provided

or are incorrect, the following prompt may appear:



In this case, in **Connection Server address** field you need to enter an IP address or DNS name of **Connection Server** computer (where Connection Server components were installed).

In **Connection Server login** and **Connection Server password** fields you need to specify credentials of the teacher account, created in Connection Server Management Console (please see [Chapter C](#)); or leave these two fields blank if you are using *Windows authentication* (authentication based on the user logon information in Windows operating system) .

Enable **“Save connection parameters”** option to save the entered credentials for further automatic authentication.

**If you still cannot log in to Connection Server** with the entered information, and the prompt does not disappear, please check that:

1. In Connection Server Management Console, on About tab, please verify that your license information is correct, valid, and not expired. If you have just registered Connection Server, restart the server computer for the changes to take effect.
2. Verify that Connection Server address or computer name is specified correctly, try using an IP address instead of a DNS name for the server, to rule out a possible DNS resolution issue;
3. Verify the teacher account credentials, if you are using Windows authentication, try creating a custom teacher account in Connection Server Management Console on the Teachers tab and use it for authentication;
4. Verify that the Net Control 2 Connection Server service is running and that port 21037 is not blocked by a firewall.

The teacher login credentials can be changed at any time in the teacher console

by clicking the main menu command **N -> Options -> Options:**

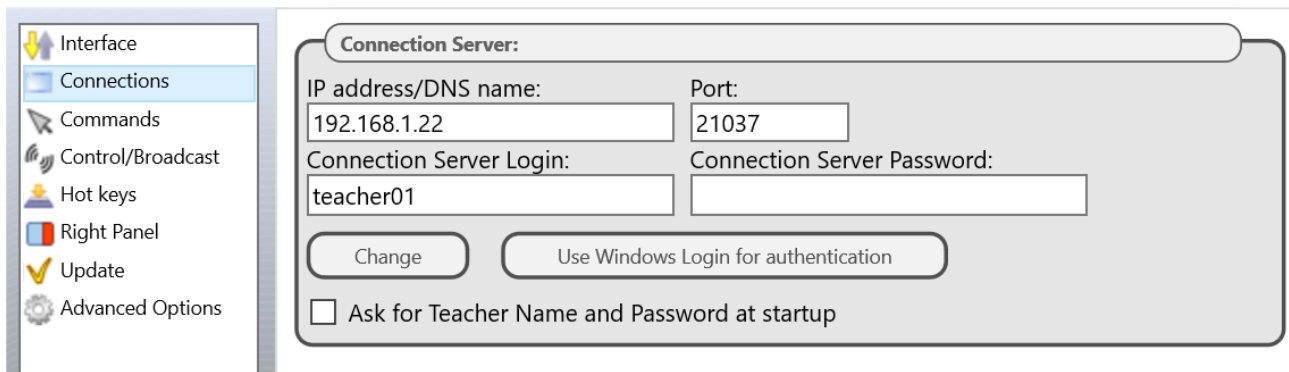
On the Connections page, configure the following:

**Connection Server IP address/DNS name** – IP address or host name of Connection Server computer, where the server components are installed.

**Connection Server Login** – the Teacher account ID, as provided in Connection Server Management Console (described above in p. 2 of this chapter).

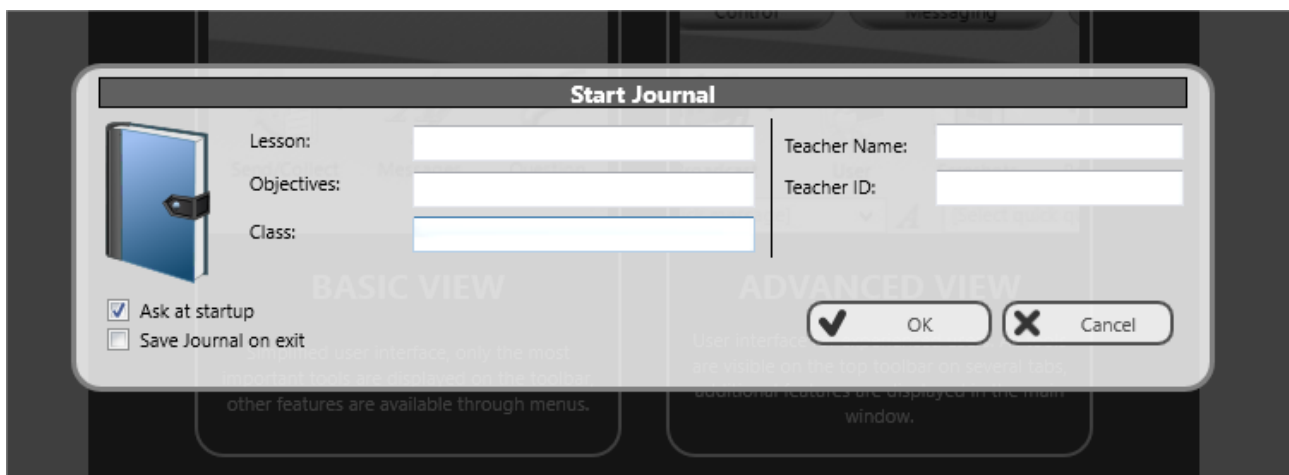
**Connection Server Password** – the Teacher account password.

Click **Change** button.



## E. The teacher console (all editions).

When the teacher module starts, it may display a prompt to enter lesson details:

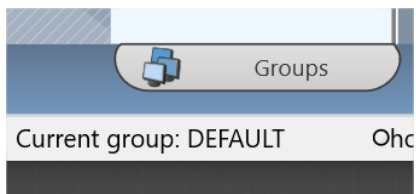


These details are optional but are needed to log lesson information in the Journal, and they will be displayed on student computers in the student console.

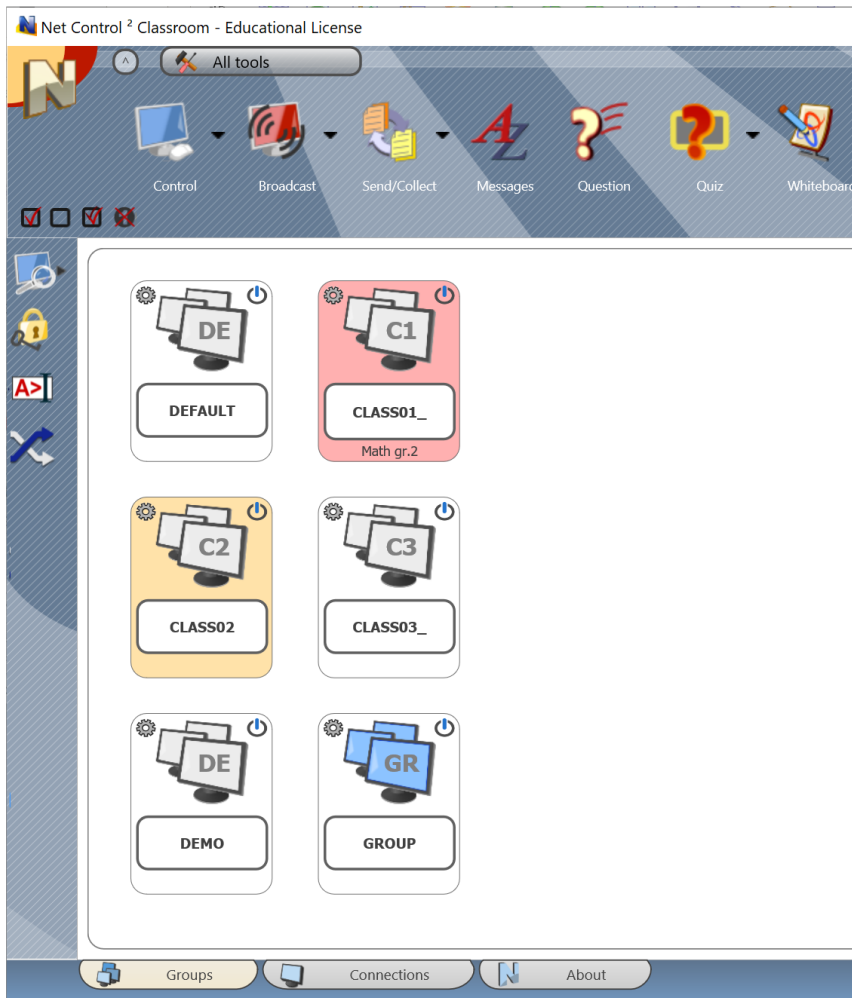
You can uncheck "Ask at startup" option to prevent this window from appearing at the next startup. The entered Teacher name, ID and Class will be stored and used for next lessons.

If student computers were properly configured, and a correct group is opened in the teacher console, student connections should appear in the teacher console in 15-30 seconds.

The current group name is displayed in the bottom-left corner of the teacher console:



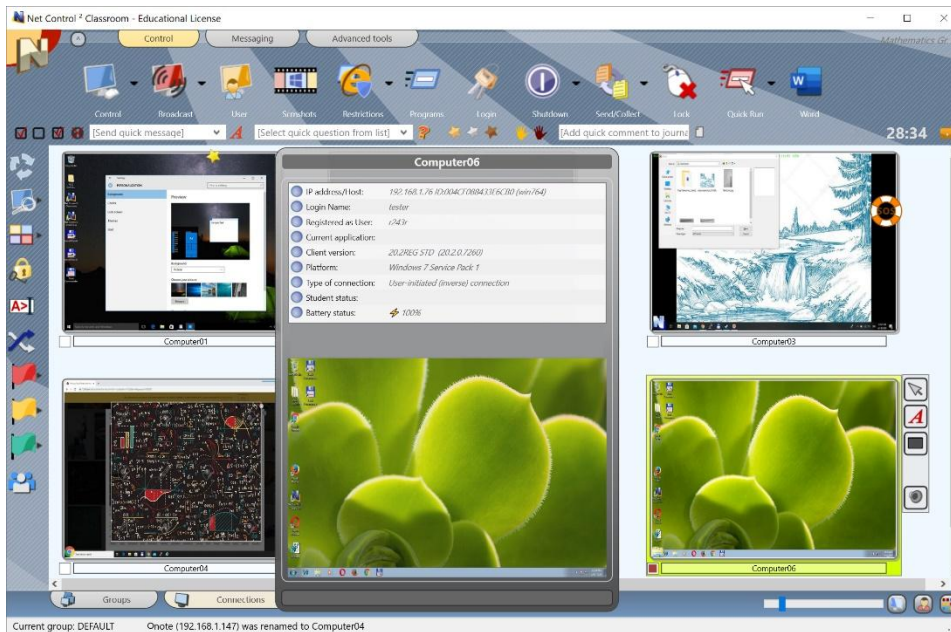
If student computers were assigned to different groups, the available groups will appear in the teacher console, on "Groups" tab (the tab button is at the bottom of the teacher console):



To open a group, double click the respective icon.

New groups appear in the teacher module automatically only if the respective student computers were configured to connect this teacher computer.

If connections do not appear in the teacher console within 15-30 seconds, please check that settings on the student computers are correct (the teacher computer IP address or DNS name is correct and group name is the same as used on the teacher computer); local third party firewall (network security or anti-virus software) on the teacher computer does not block incoming connections.



Now you can select one or several connections and apply commands and tools to perform operations. Tools and features that are common for all editions are described in the **Tools and Features Guide**, you can download it from our website at <https://www.netcontrol2.com/downloads>


By default, connections are named as a combination of:

**Computer name** (network computer name), if Computer Name View mode is selected (



button at the bottom-right hand corner of the teacher console is pressed);

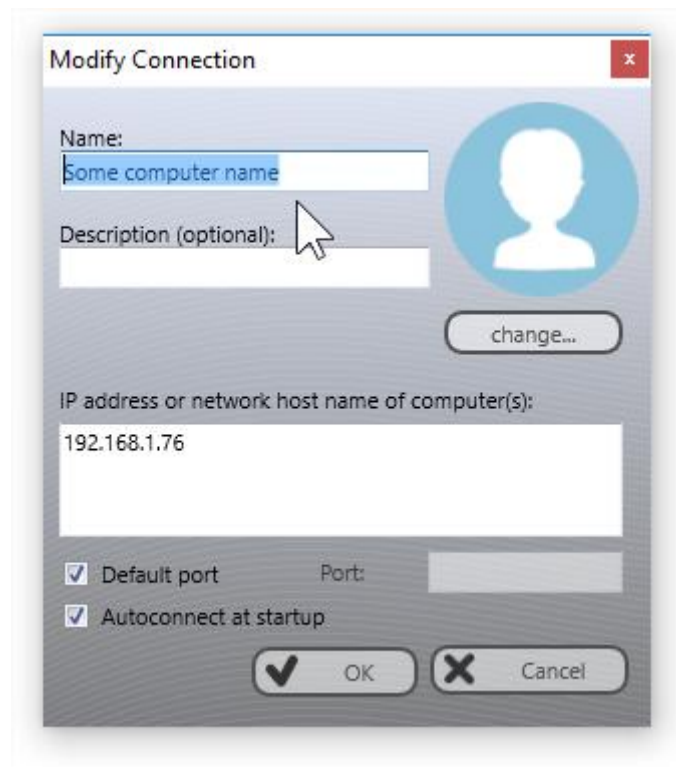
and/or

**User name** (an alias), if User Name View mode is selected (  button at the bottom-right hand corner of the teacher console is pressed). The user name will be displayed as (in order of importance):

- a student registration name, i.e. a name that students enter in Student Registration dialog (for more information please see Student registration tool), or
- any custom alias, if provided in the student module settings in "Alias" field on Connections tab of Client Configuration window; by default the alias is not set; or
- a full user name as provided in the Active Directory database (as "John M. Doe", for example), if available; or
- a Windows user login name.

You can rename a connection (the computer name part) right clicking the connection, and

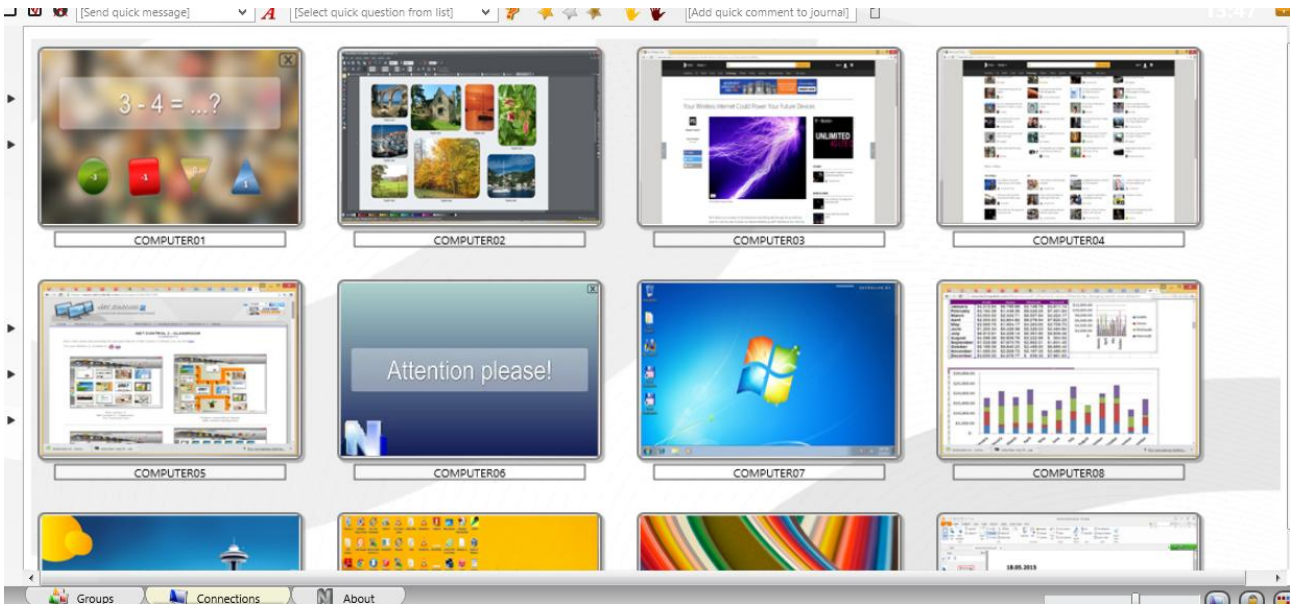
then using Modify connection menu command:



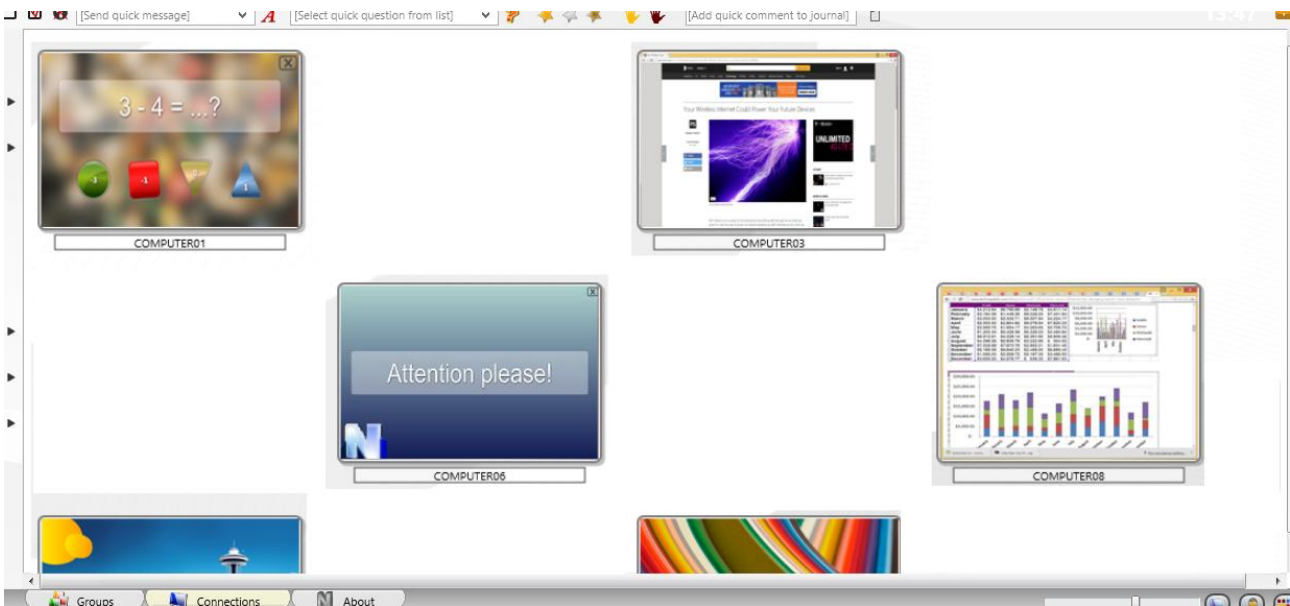
### ***Arranging and sorting connections. Custom layouts.***

Except for Table View (described below), the teacher module can display connections either in an arranged order or in custom, user-defined positions:

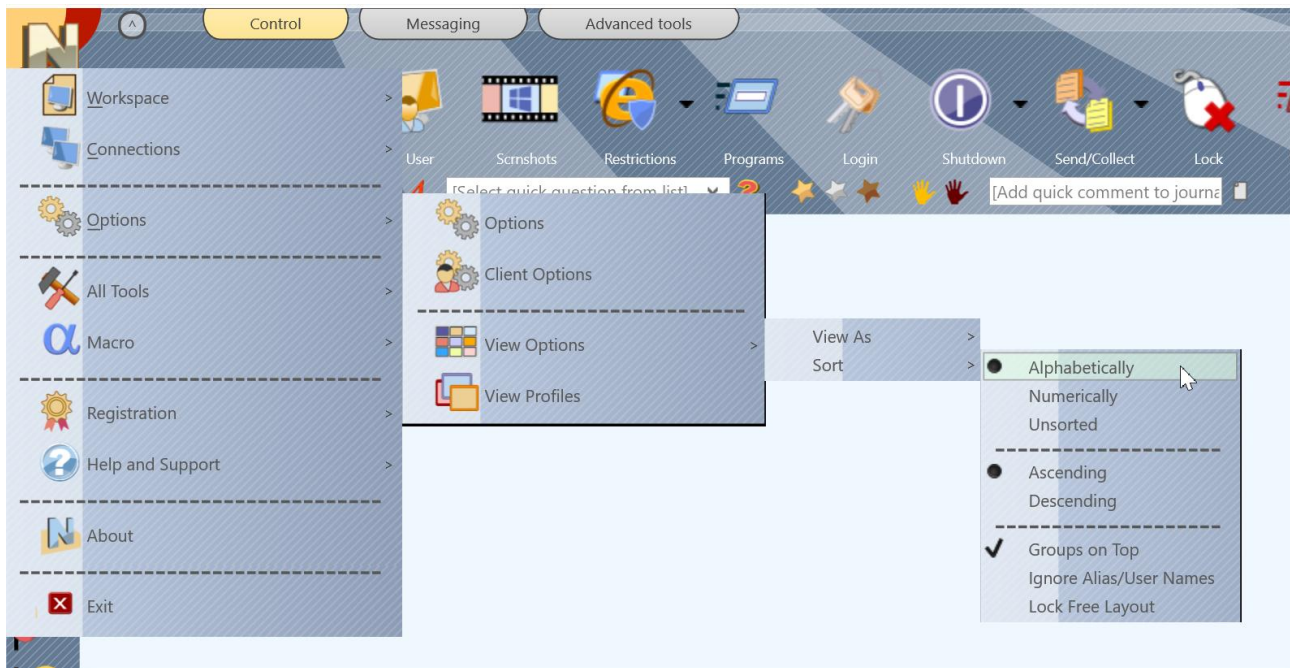
#### **Arranged view:**



**Custom layout:**



In *Arranged View* connections may be sorted in one of the following orders:



**Alphabetically**, in descending or ascending order;

**Numerically**, in descending or ascending order, in this case only the numeric part of a connection name will be taken in account for sorting, e.g. **"Computer0123"** connection will be displayed earlier than **"Auto987"** for ascending order.

**Unsorted** – connections appear in the order as they are stored in the workspace database.

**Groups on Top** – places joined (grouped) connections to the top of the list.

**Ignore Alias/User Names** – when enabled, only the computer name part of a connection name will be taken in account for arranging.

To change the sort mode, use the main menu command **N – Options – View Options – Sort**.

In **Free Layout** mode, you can position connections in the connections list in a custom order, just by dragging them to a desired position within the connections list. To change Arranged View mode to Free View, please use the following button at the bottom-right hand corner of the teacher console:



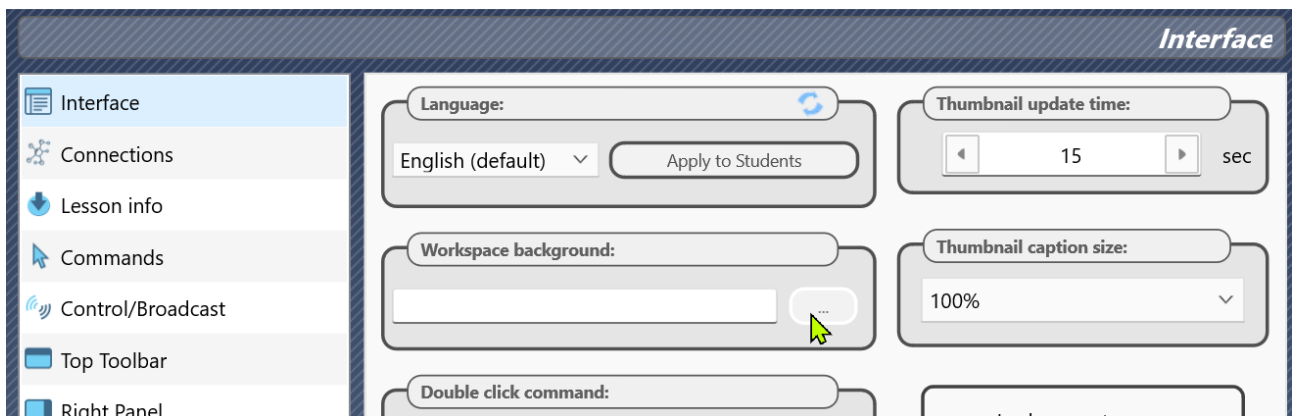
To lock the layout, to prevent accidental changing the order, use the Lock Free Layout option in the **N – Options – View Options – Sort** menu

### Custom background

In addition, for both Arranged and Free View modes you can enable a **custom background** image for the connections list. It is possible to use this feature to draw some class layout, for example as shown on the picture:

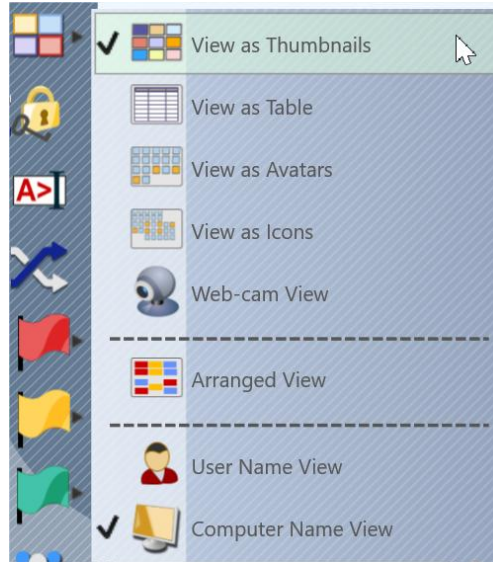


To load a custom background image, in the teacher module click the main menu command **N – Options – Options**; on **Interface** page, in **“Workspace background”** section open a file for the background and click OK.



### View modes

Net Control 2 Classroom supports five view modes for the connections list:

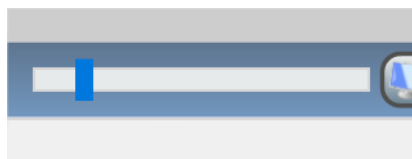


**Thumbnails:** connections are displayed as desktop snapshot thumbnails,



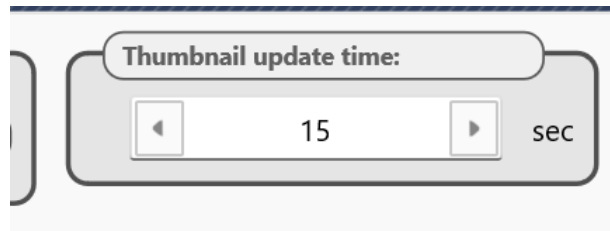
In this mode, you can see an icon of the currently used application on the student computer (in the bottom-left hand corner), help request buttons, awards, poll answer information etc.

Thumbnail size may be adjusted with a slider at the bottom-right hand corner of the teacher console:



or in the teacher module settings.

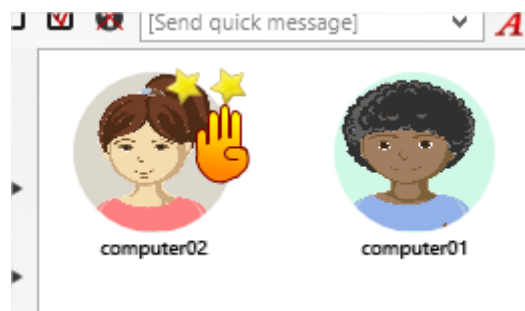
The default refresh rate for thumbnails is 15 seconds, i.e. the image will be reloaded every 15 seconds. To change this value, in the teacher module settings (the **Interface** page in the main menu command **Options – Options**), adjust “Thumbnail update time” option, click OK to apply changes:



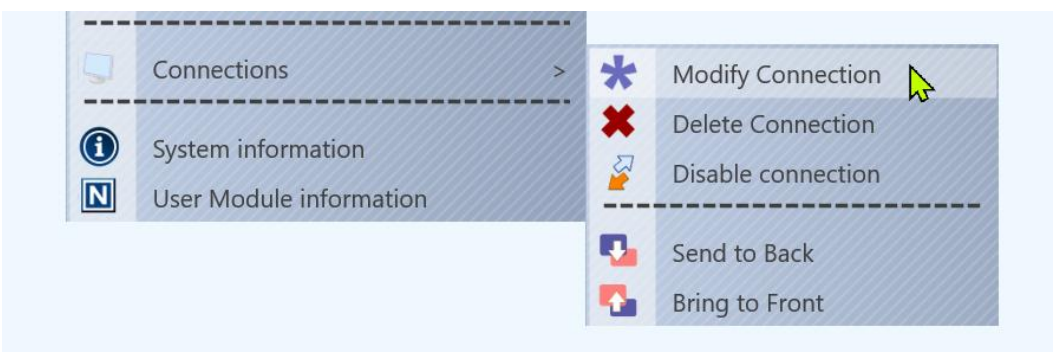
**Table:** the connections list is displayed as a table, each line represents one connection, in this view mode you can see connection and user names, IP address or DNS name of the remote computer, awards, help request, description, remote platform information, MAC addresses of the remote computer, other information:

<input type="checkbox"/>	Name	Alias	Address		Description	Platform	StudID
<input type="checkbox"/>	computer02	tester	192.168.1.76 RDP#1			Windows 7 Service Pack 1/11.1.1.632	
<input checked="" type="checkbox"/>	computer01	user	192.168.1.22 RDP#2			Windows 10 /12.0.0.515	

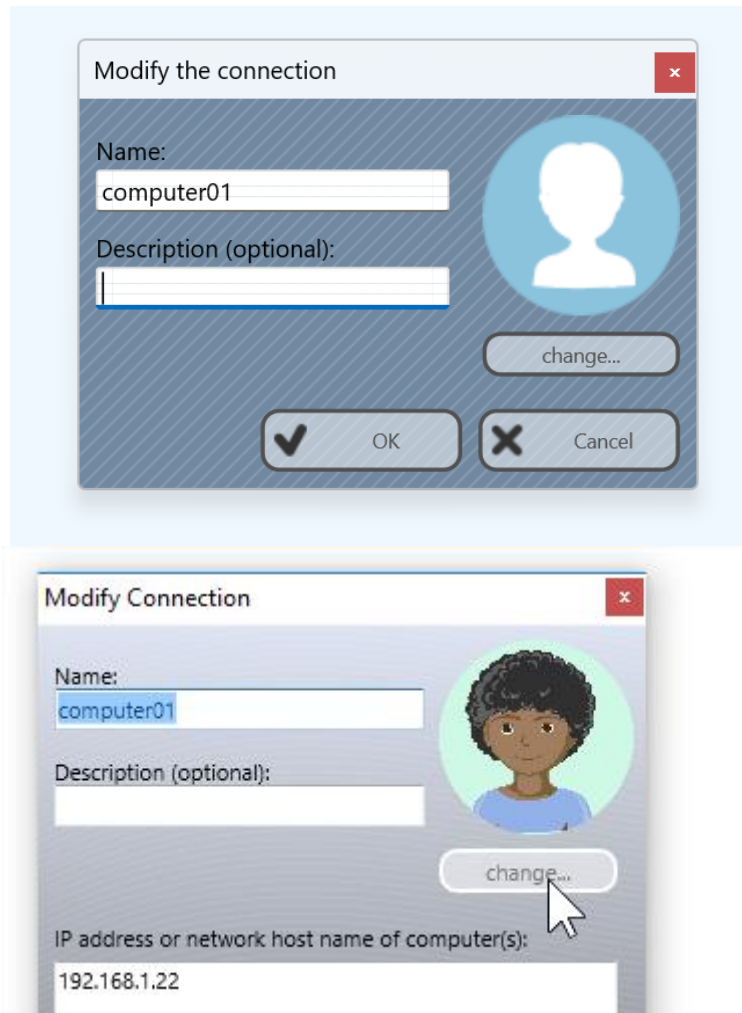
**Avatars:** connections in the list are displayed as avatars, for any connection you create an avatar with the built-in editor or assign a custom image from a file.

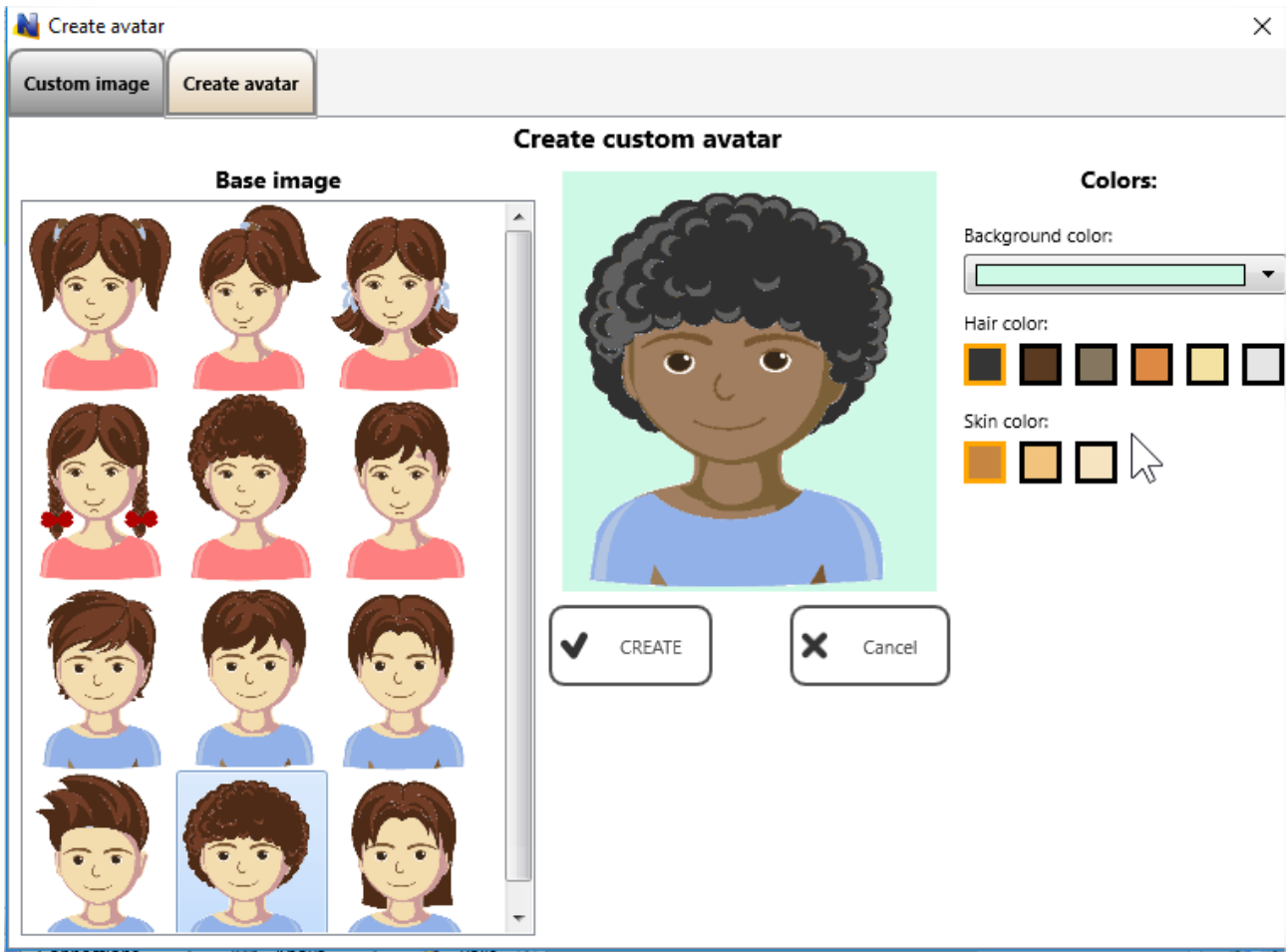


To change an avatar for a connection, right click it in the connections list, use the **Connections – Modify connection** context menu command:



In the window that appears click **Change**:





Customize the avatar or load a graphic image on **Custom Image** tab:

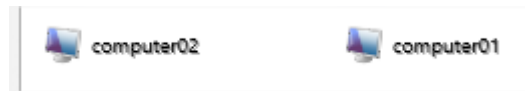


Click Crop and Use button to save changes.



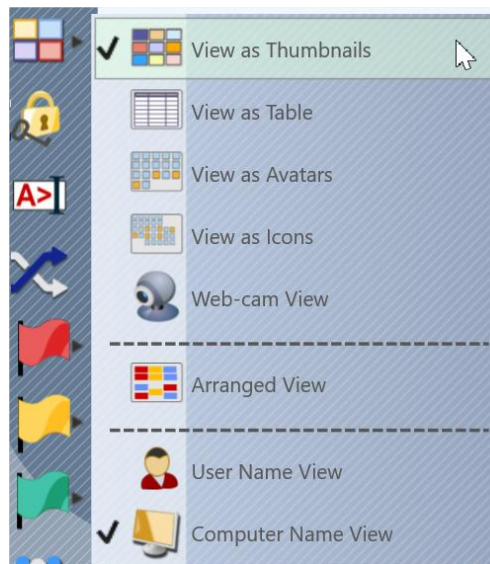
**Icons:** connections will be represented in the connections list by small icons, making it

possible to place more connections on the screen than with other view modes:



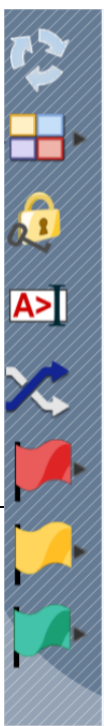
**Web-cam view:** connections are represented by thumbnails from a web-camera attached to student computers. Except for the image source (a webcam instead of the desktop), this mode is similar to Thumbnails view mode, allows displaying icons, signs and other information in the same way as in Thumbnails View mode.

To change the view mode you can use the Thumbnail button's sub-menu:



Or the main menu command **N – Options – View Options – View as**.

### Left Toolbar



The left toolbar provides access to several connection-related features of the teacher console:

**Refresh connections** – reloads connections, current connections will be closed and re-opened. You can use this command if you experience some issues with network connection or a remote computer does not respond.

**Scan** – allows searching computers in the network, please see additional information regarding this feature below (Classroom Edition only).

**View mode** – changes the view mode.

**Lock** – locks the teacher console, the teacher console will be locked and waiting

for a teacher module password. If the password is not set, you will be prompted to create the password first.

**Console** – opens an internal Command Console window, where you can send commands to student computers directly, view notifications and connection events.

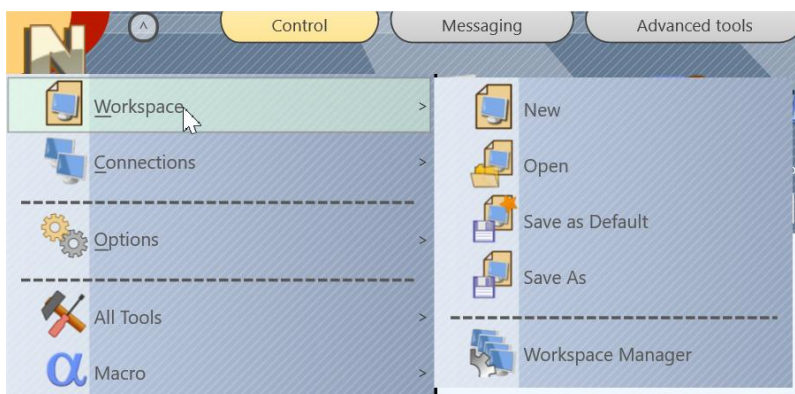
**Random** – selects a random connection. Works for connected computers only.

**Select red, yellow or green** group of computers, optionally, **blue, purple, orange** groups. With these buttons, you can create a selection group for selected computers: select one or more computers click one of color group buttons, the selected computers will be assigned to the respective color group. Then, to select computers of the group again, just click the button again.

## Workspace operations

The *workspace* is a list of groups and connections with related information, including information about established connections, a position of thumbnails, color groups and other connection details. When some of connection details are changed in the process of the teacher module exploitation, on closing the program it will prompt to save changes to the workspace.

You may sometimes need to transfer the workspace to another computer to replicate the group and connection structure. For such cases, you can use commands of **Workspace** menu (**N – Workspace**):



**New** – creates a new, empty workspace

**Open** – opens a workspace from a file

**Save as Default** – saves the current workspace with all its changes, and makes this configuration "default", which will be loaded at next startup.

**Save as** – saves the current workspace to a custom file.

To transfer the workspace to a new computer you need to save the workspace to some file with *Save as* command, then on the new computer open it with *Open* command and save it immediately as "default" workspace with *Save as Default* command.

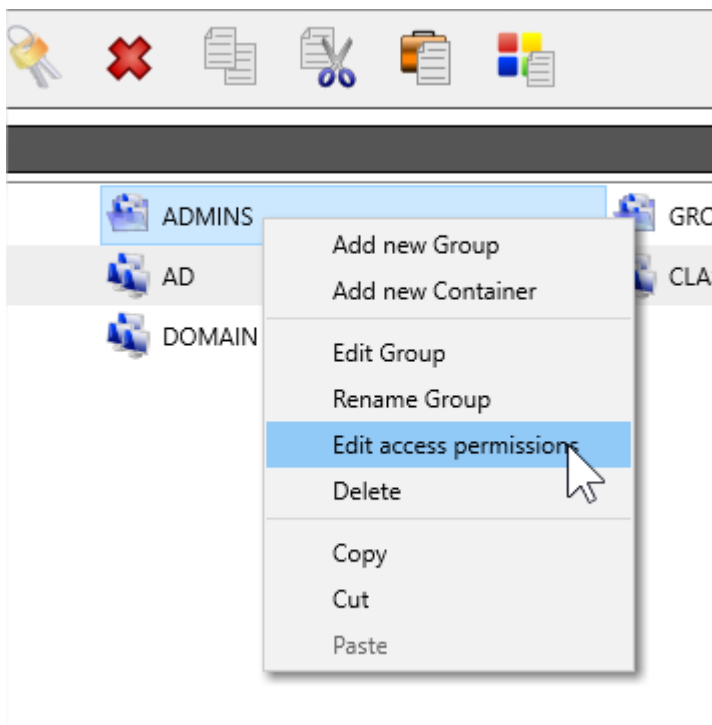
## F. Professional Edition Groups

### 1. Access to Groups and Containers

With Professional Edition, an administrator can restrict teacher access to groups or containers by configuring access permissions in Connection Server Management Console.

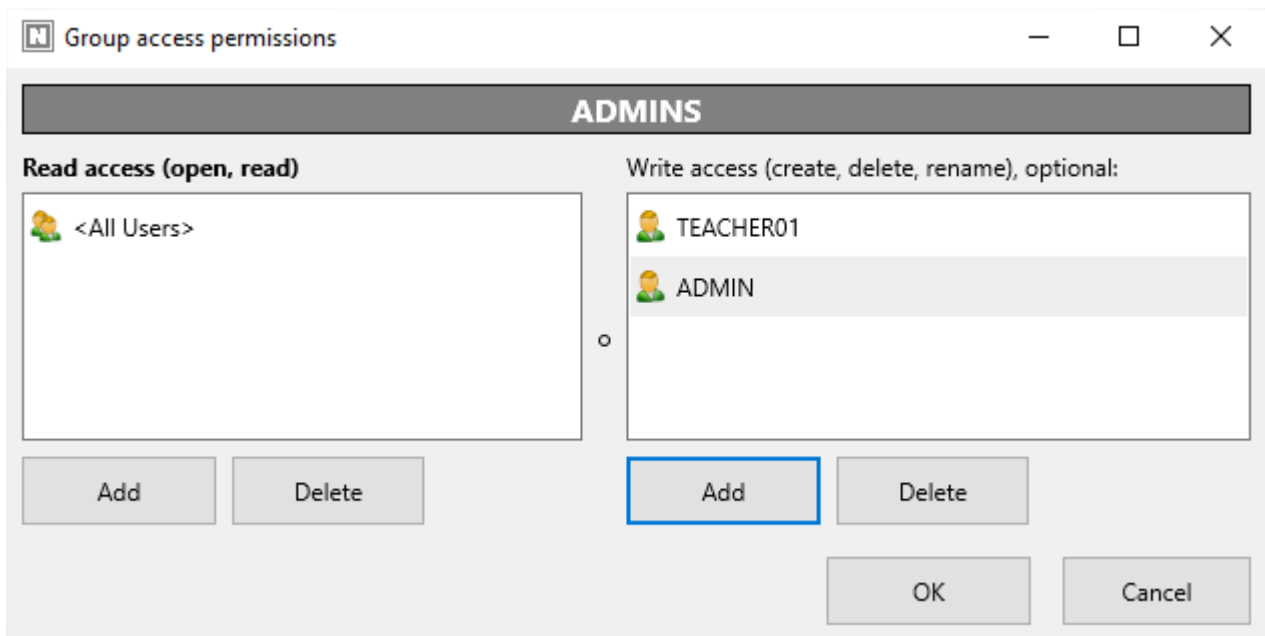
By default, all teachers have read access to all groups, meaning they can open them and control students within.

To change an access permission for any group or container, in Connection Server Management Console, on Groups tab select a group and right click it; in the context menu that appears click "Edit access permissions" command:



In the window that appears, in **Read access** section use **Add** or **Delete** buttons to add users, user groups, Active Directory users or Active Directory groups that **will have access to the group**.

The predefined **<All Users>** group includes all teachers of Connection Server. Presence of this account means that any teacher may have access to the group. Therefore, in order to limit access to some group, first you need to delete **<All Users>** account and add only the teacher accounts that should be able to open and work with the group.



Write access permissions allows modifying the selected group by teachers remotely, from the teacher console and are described in the next section.

To apply changes, click OK button, close Connection Server Management Console and restart Connection Server services.

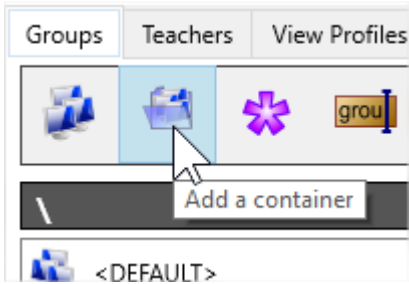
## ***2. How to allow teachers creation groups or containers, add connections to a group***

With Net Control 2 PRO you can assign several write access privileges for particular teachers to allow them creating groups, containers and manage members of these groups remotely, from the teacher console.

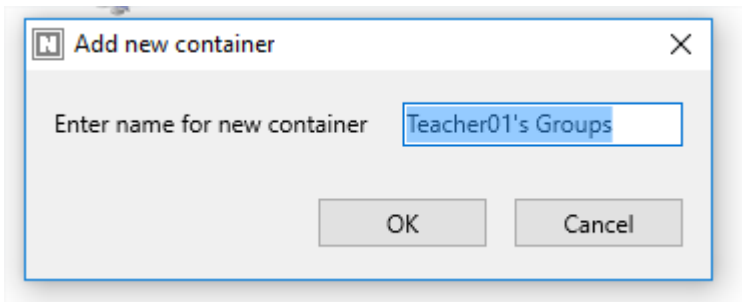
**By default teachers do not have write privileges** for any groups, and the group management is allowed only for an administrator on Connection Server computer, using **Connection Server Management Console**. Any write access privileges must be set up for each group or container individually.

Teachers can create, delete or rename groups only within containers where they have write access privileges. Particularly, teachers cannot create or delete groups on the root level, you need to create in the group structure a special *container* for a teacher, assign the necessary write privileges for this container and the teacher account.

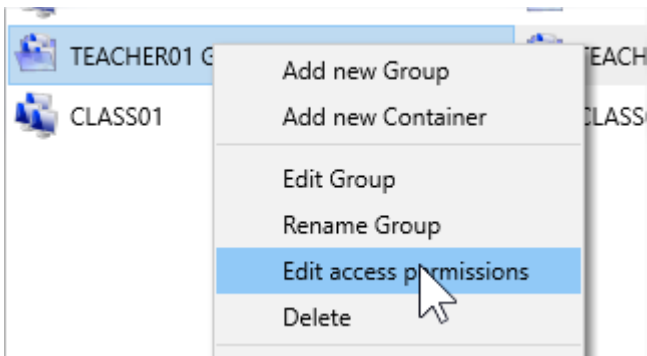
In **Connection Server Management Console** on **Groups** tab click **Add Container** button:



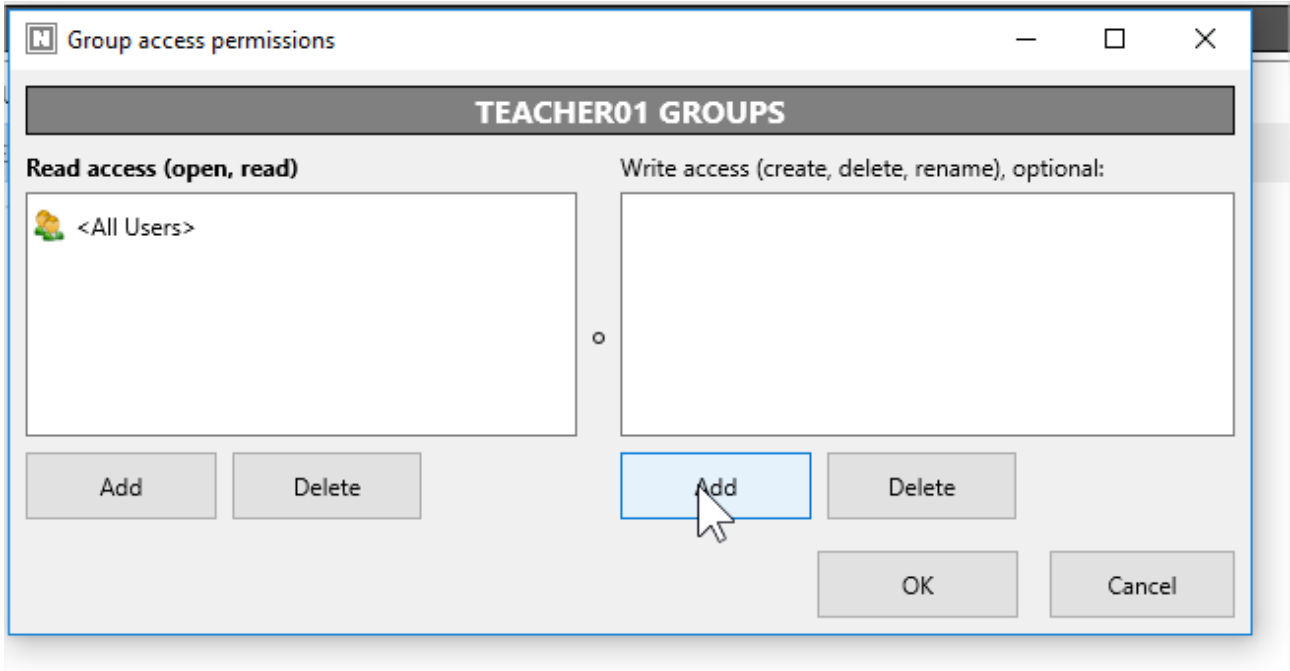
Create a container:



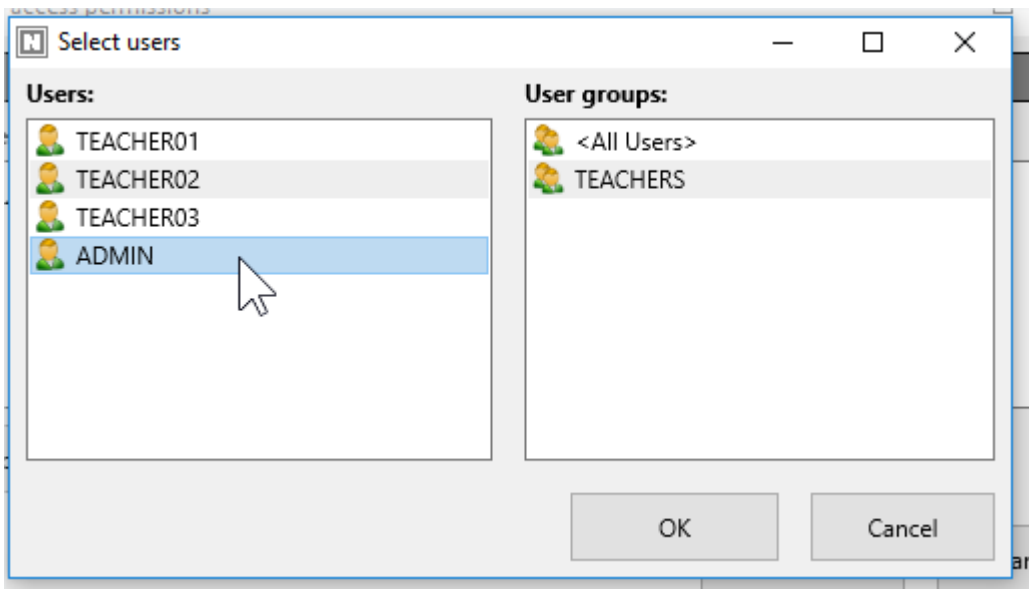
Right-click the created container and select "Edit access permissions":

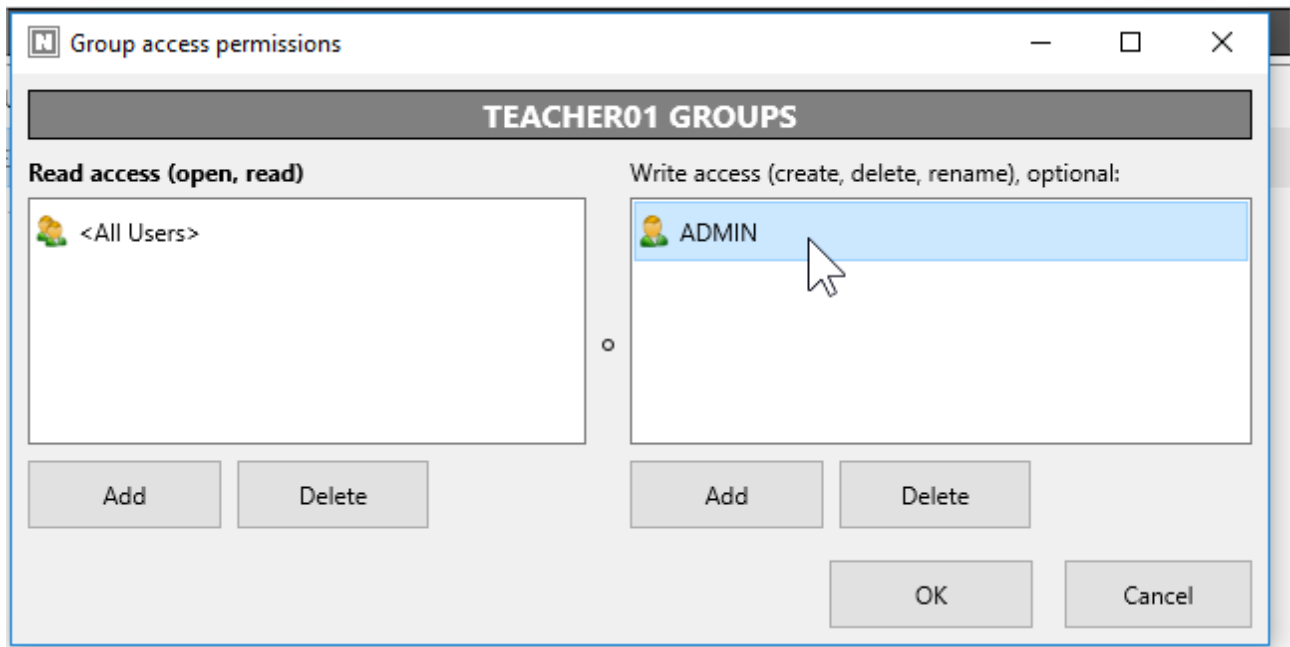


In the **Group Access Permissions** window, in right section **Write access**, click **Add** button:



Add the teacher account that should have write access to the group.





Click OK, close *Connection Server Management Console*, restart *Connection Server* service in order to apply changes.

You can add write permissions to any existing group in the same way. This allows the teacher to copy connections to the group from other groups, delete the group, or rename it.

Once write access privileges are assigned, the teacher can use the group management tools in the teacher console:



On **Groups** tab, in **Add Group** button's context menu the teacher can perform the following operations:

**Add group/connection** – create new group. Groups can only be created within containers where the teacher has write access.

**Add container** – create new container. Containers can likewise only be created within containers where the teacher has write access.

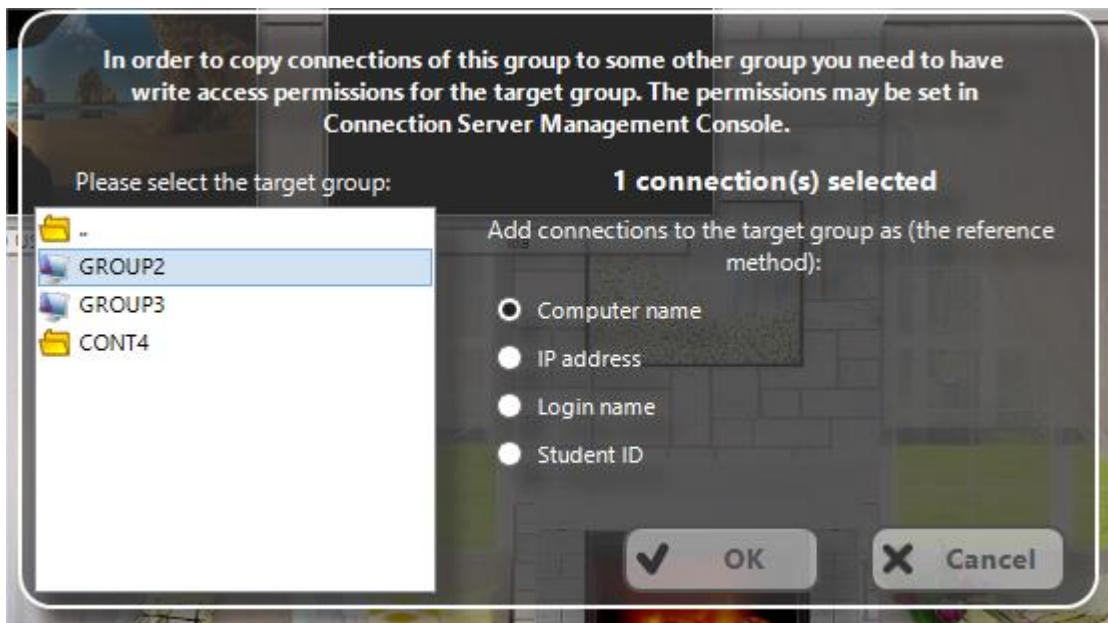
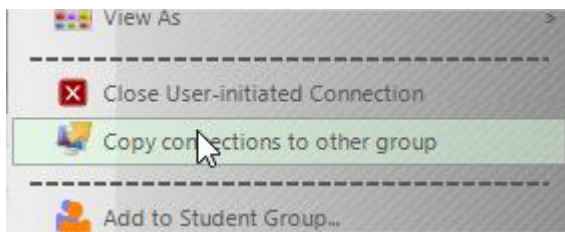
**Delete group/connection** – deletes the selected group, if the teacher has write access

privileges for this group.

**Group properties** – using this command the teacher can rename any group in which they have write privileges.

By default, teachers automatically have both read and write privileges for all groups and containers they have created.

To copy student connections from one group to another, on the Connections tab of the teacher console, select the relevant connections, right-click, and choose Copy Connections to other group:



In the window that appears select the target group where the connections will be copied and specify how the connections should be referenced in the target group: by computer name, IP address, login name or Student ID.

The write privileges are required only for the target group, the source group may be any existing group, including **Default**, the copied connections are any connections, created on the server or self-registered connections, connected by students manually.

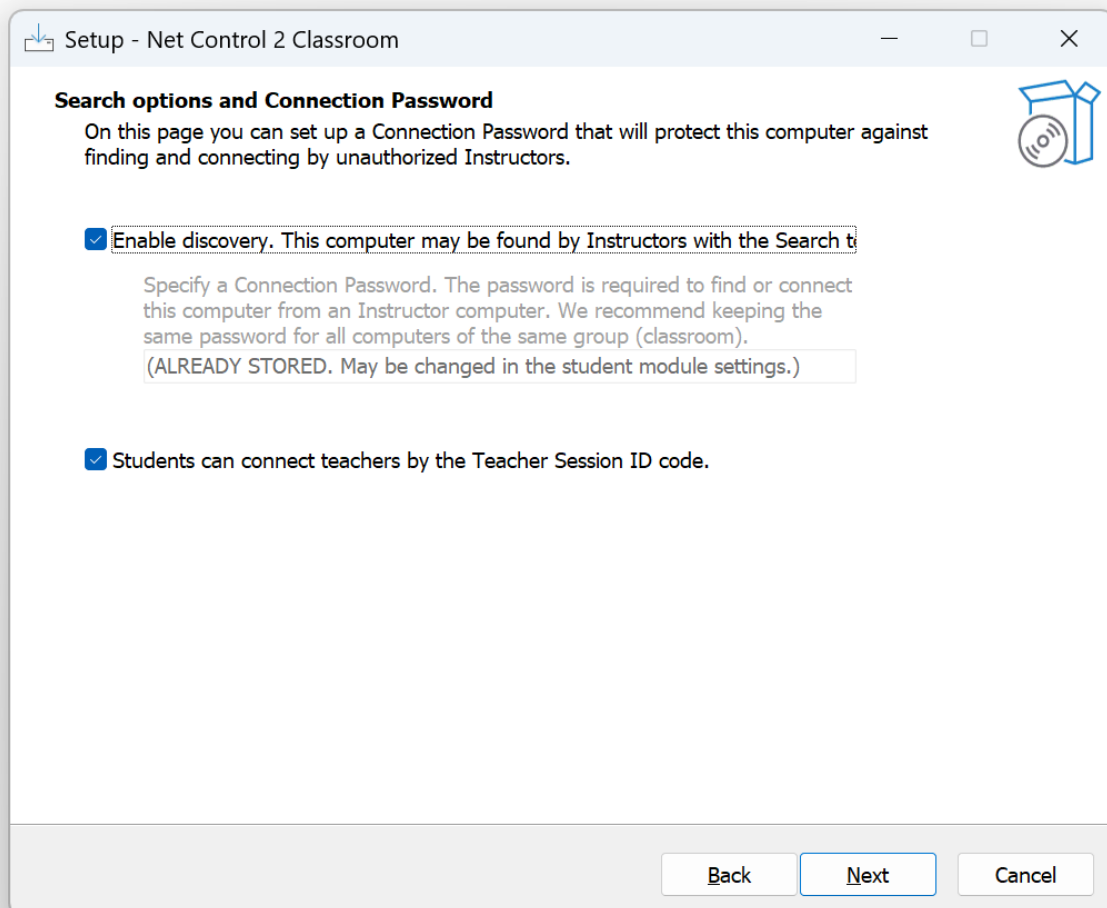
## G. Classroom Edition. How to search or add student computers remotely from the teacher console

In Net Control 2 Classroom, teachers can search the network for available student computers and add them to the workspace; the relevant settings will be updated on the student computers accordingly.

### Requirements

To prevent unauthorized access to student computers, you must explicitly enable this feature in the student module settings and set a connection password.

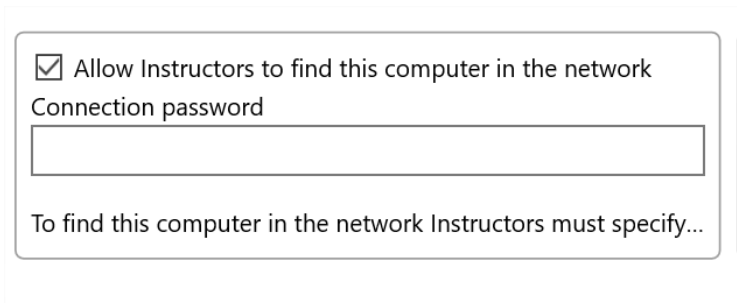
Installing the software on student computers with the standard installation package, on "Search options" page you need to enable **"Enable discovery. This computer may be found by teachers using Search"** option, in the field below, you need to enter a connection password:



If the software is already installed, you can change these settings in the student module

settings (on a student computer: right click Net Control 2 icon in the System Tray, then click Configure button; or, if you have access to student computers from another teacher computer, select student connections, use the main menu command **N – Options – Client Options**). In the appeared configuration window, on Connections tab:

Enable **“Allow instructors to find this computer in the network”** option, set up some **Connection Password** in the respective field:

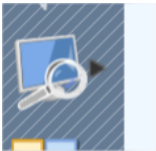


The screenshot shows a configuration window with a checked checkbox labeled "Allow Instructors to find this computer in the network". Below the checkbox is a text input field labeled "Connection password". At the bottom of the window, there is a note: "To find this computer in the network Instructors must specify..."

**Important!** We recommend setting up the same connection password for all computers of the same group (classroom).

## Search

To search computers from the teacher console, click Scan button on the left toolbar:

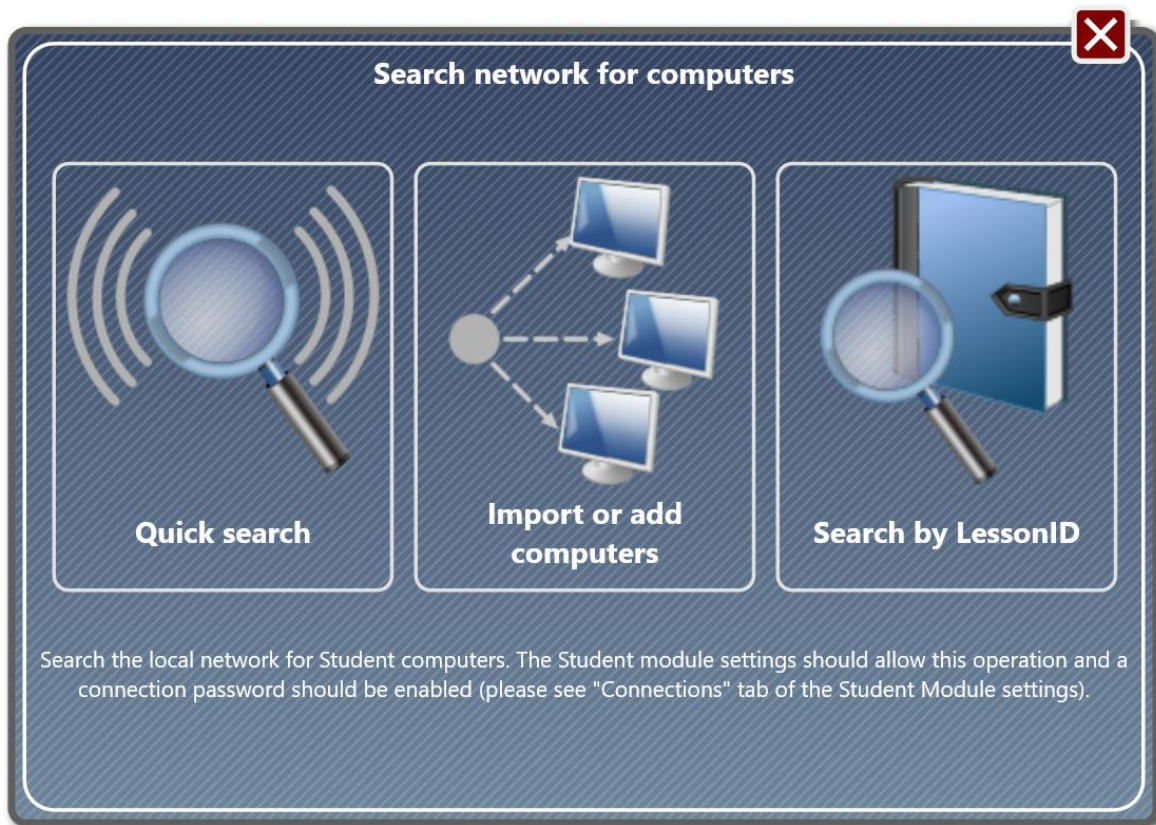


In the window that appears:

**Quick Search** performs a quick scan of the network for available student computers, the operation takes 10-15 seconds. Quick Search may be unable to find computers in other VLANs or if the network hardware blocks Multicast and UDP Broadcast traffic between subnetworks.

**Import or Add Computers** – performs search within some provided list of computers, as an IP address range, text files containing computer names, Active Directory database or Network Neighborhood.

**Search by Lesson ID** – a special case of quick search that does not require Connection Password for connecting student computers, and is based on Student Registration feature.

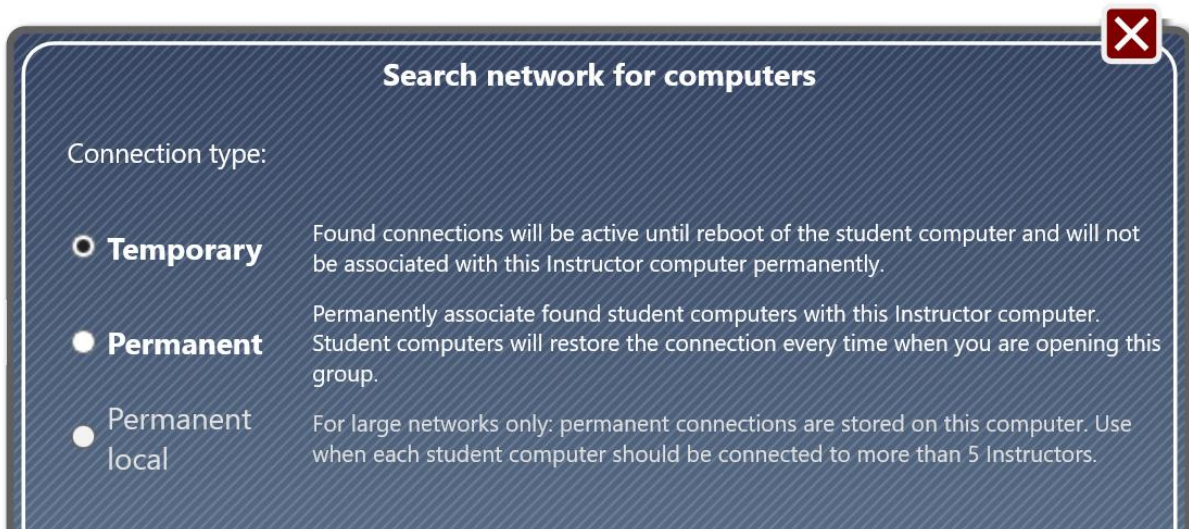


## Quick Search

As a first step, after clicking the Quick Search button, you will need to specify a connection password (please see [Requirements](#) section of this chapter):



At the next step, specify how the teacher module should handle found connections:

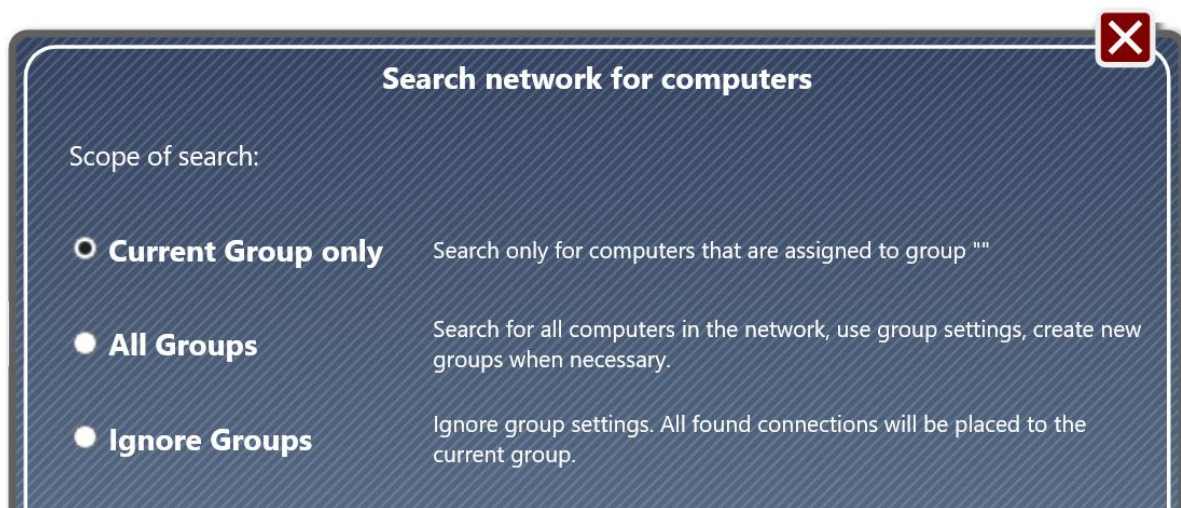


**Temporary** – establishes a temporary connection with found student computers. The connection will be removed from the teacher console automatically, after a user on the student computer logs off or the computer or Net Control 2 Student Module Service is

restarted.

**Permanent** – creates permanent connections with found computers. The student module settings on those computers will be updated to include the teacher computer's address. To achieve the better performance for the student computer, we recommend setting up no more than 5-10 teacher computers per each student computer.

**Permanent (local)** – creates permanent connections with found computers and stores them on the teacher computer as direct connections. Use this option only if each student computer should be controlled by more than 10 teachers. Otherwise, use simple "permanent" connections instead.



At the next step, select the search scope:

**Current Group only** – the teacher module will search only for student computers belonging to the group currently open in the teacher console. For example, if the currently opened group in the teacher console is "Default", and the student module has "Class01" as the Group Name in the student module settings, then the connection will not be added to the workspace.

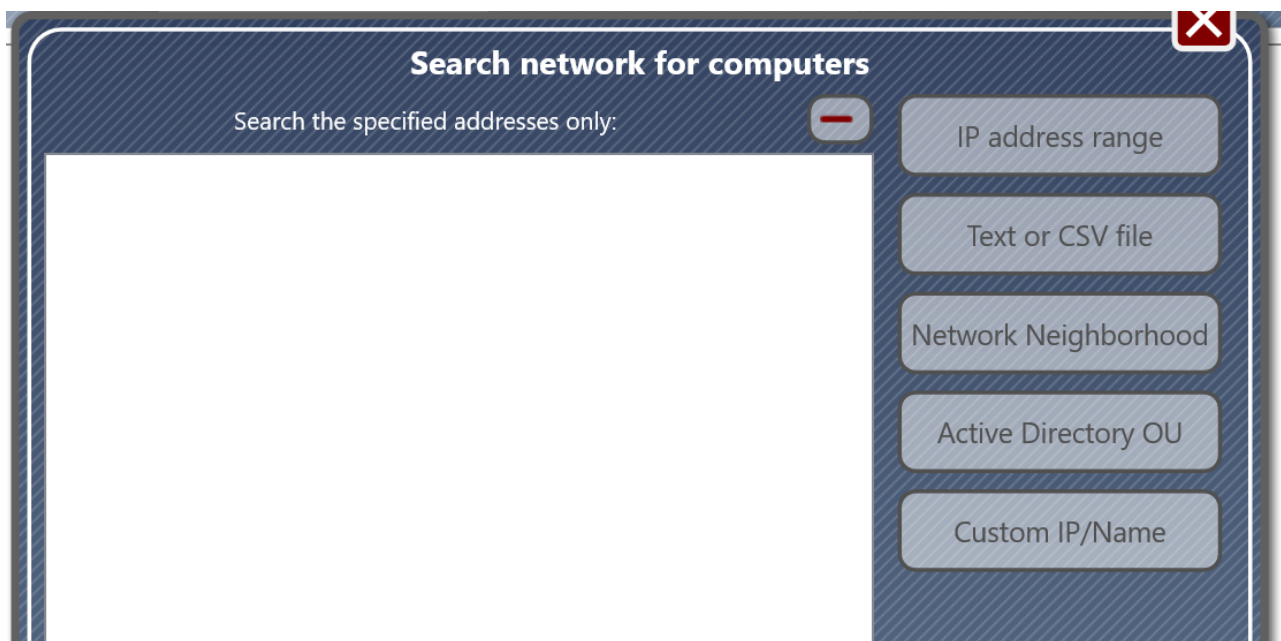
**All Groups** – the teacher module will search for all students, which are available in the network and accept the specified connection password. If students belong to a group other than the one currently open in the teacher console, the teacher module will create new groups automatically.

**Ignore Groups** – the teacher module searches for all available students regardless of their group settings, all connections will be placed to the currently opened in the teacher module group. Group settings on the student computer will not be changed.

## ***“Import or add computers” mode***

First steps of this mode are the same as for **Quick Search** mode described in the previous section.

In addition, at fourth step you will need to create a list of network computers, where the teacher module will search for the available students.



**IP address range** – you can specify a range of IP addresses, for example 192.168.0.1 – 192.168.1.254. The teacher module will scan each computer of the specified range for available student module that correspond to the specified group parameters and the connection password.

**Text or CSV file** – you can open a list of computers or IP addresses that are stored in a text or CSV file.

**Network Neighborhood** – you can select computers from Network Neighborhood where the teacher module will search the student module.

**Active Directory OU** – the list of available computers will be filled with computers that are present in Active Directory Organizational Unit database, and you will be able to select computers for search from this list.

**Custom IP/Name** – you can add one or more computers to the list of search, use a network computer name or IP address of the student computer that should be added.

The process of scanning the network for this mode may take several minutes, depending on the number of objects where the student module will be searching.

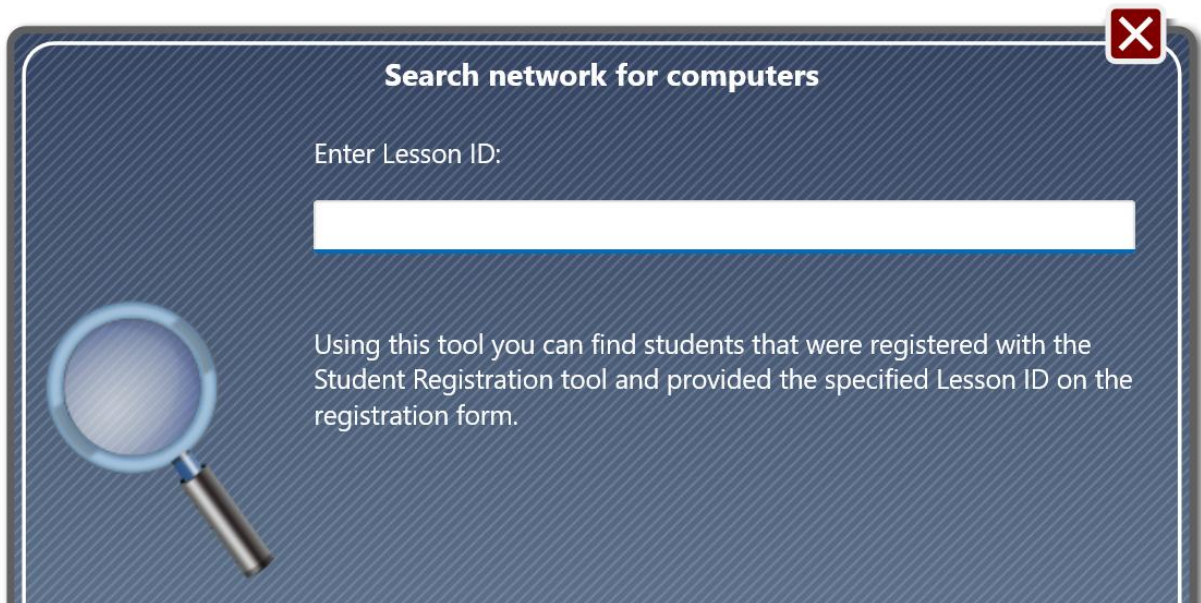
## ***Search by Lesson ID mode***

This mode is useful for 1-to-1 and BYOD environments, where permanent student groups are not practical.

This feature is based on Student Registration tool, that is, it assumes that Student Registration runs automatically on student computers after login.

In the Student Registration window, students can enter a Lesson ID as a word or phrase.

Teachers can then use the Search by Lesson ID mode of the Scan tool, entering the Lesson ID phrase as the search parameter:



The teacher module will search for students who have entered the specified Lesson ID during student registration.

The operation may fail if students and teachers are on different routers or in different subnetworks (VLANs).

## H. How a student can connect a teacher.

With Net Control 2 Classroom and Professional, students can connect to teachers themselves using the Student Console. This feature may be useful for 1-to-1 and BYOD environments, when it is impossible to create permanent groups, or to assign all available teachers to students.

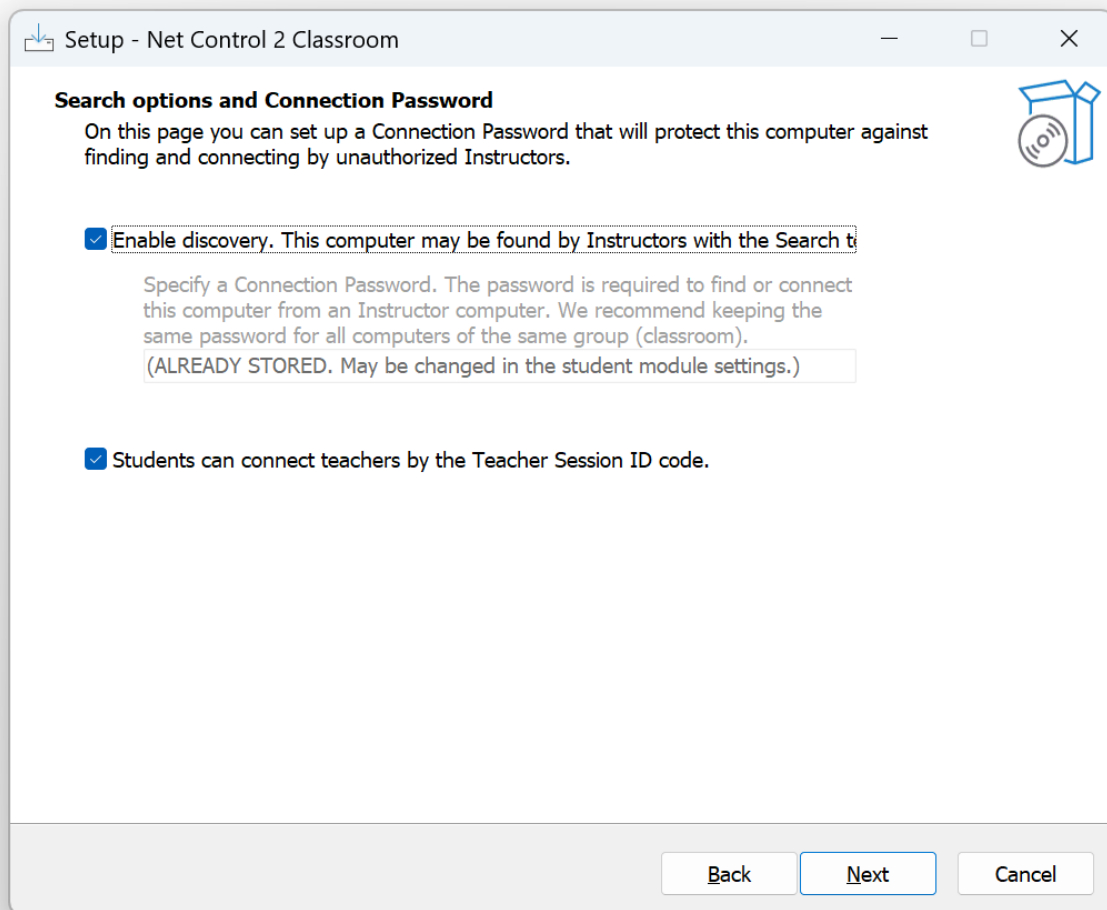
For more flexible adaptation to different work scenarios, Net Control 2 software supports the following connection methods:

- self-registration;
- connection to a teacher by providing a network name or IP address of the teacher computer;
- connection by Teacher Session ID.

### **Settings**

All methods are disabled by default and must be enabled either in the student module settings or during installation.

For Net Control 2 Classroom, in the process of installation, you can enable Teacher ID connections:



To allow students to initiate connections, enable “**Students can connect teachers by Teacher ID code**” option.

Other features are controlled by options on the 1:1 tab of the student module settings. If the software is already installed, you can enable or disable the feature in the student module settings.

If you have access to the student computers remotely from the teacher console:

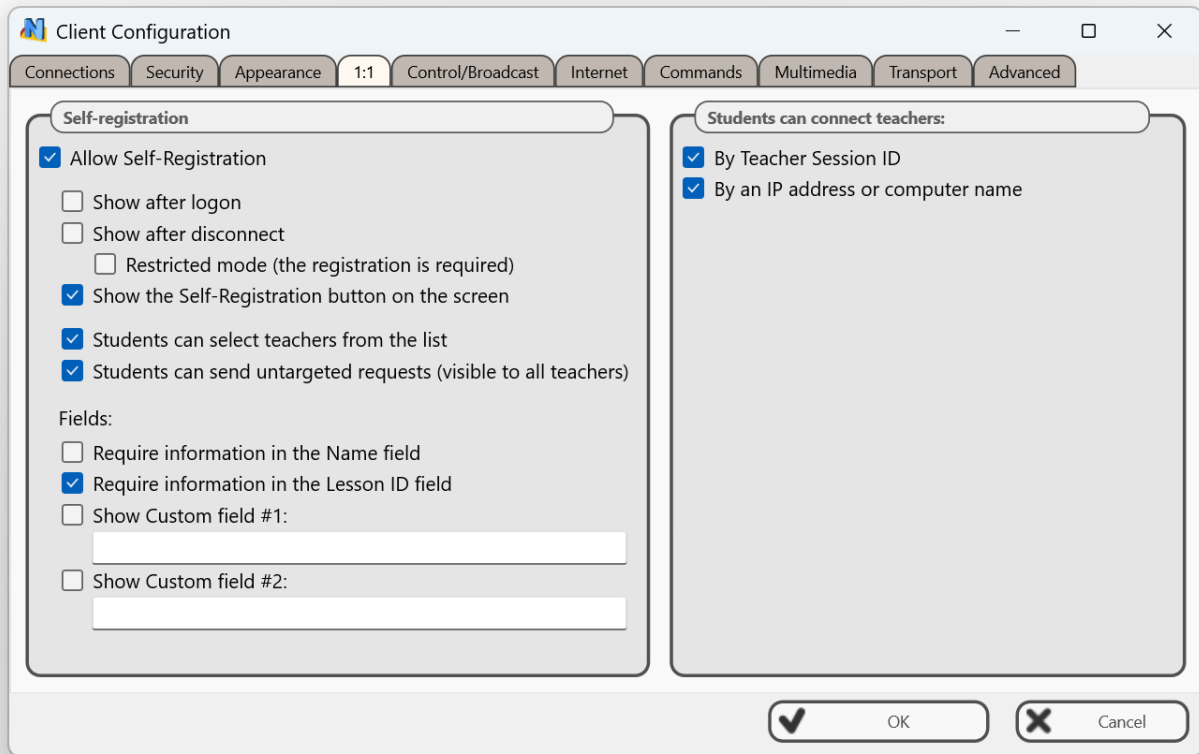
- Select student computers in the teacher console;
- Click the main menu command N – Options – Client Options.

Or on each student computer:

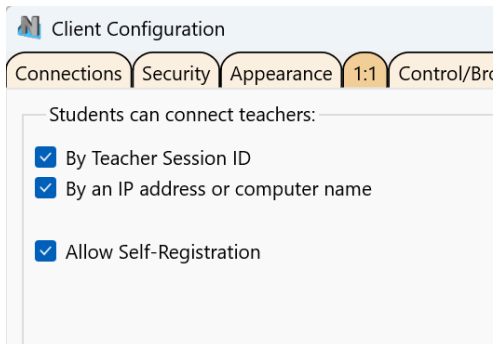
- Click Net Control 2 icon in the System Tray.
- Use Configure button in the Student Console that appears.

In the Client Configuration window that appears, on the 1:1 tab:

**Classroom Edition:**



**Professional Edition:**



**Student can connect teachers:**

**By Teacher Session ID** – when enabled, students can connect teachers by providing a special Teacher Session ID code. This feature is enabled by default.

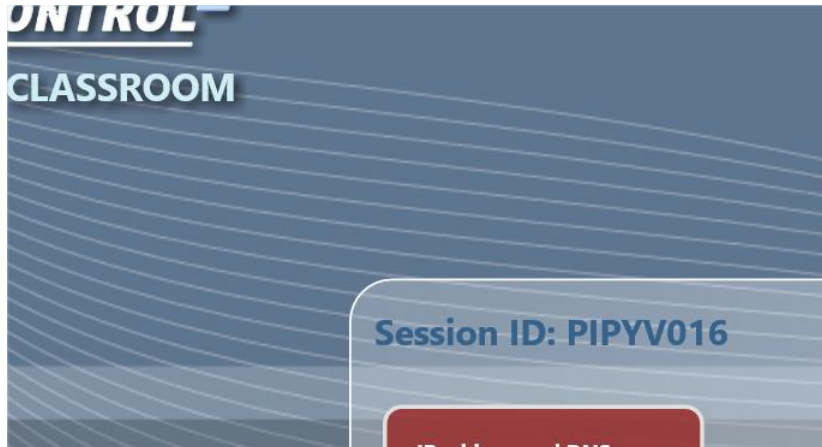
**By IP address/computer name** – when enabled, students can connect teachers by entering an IP address or network computer name of the teacher computer (disabled by default).

**Self-registration** section sets up self-registration options as described below.

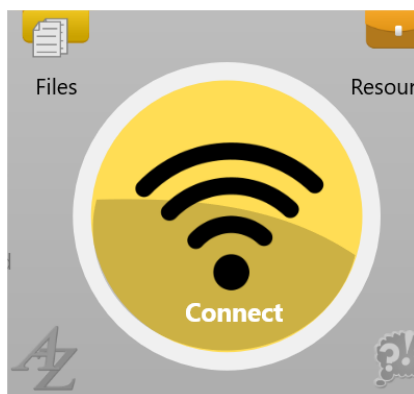
## Connect by Teacher ID

To connect a teacher by a Teacher ID code:

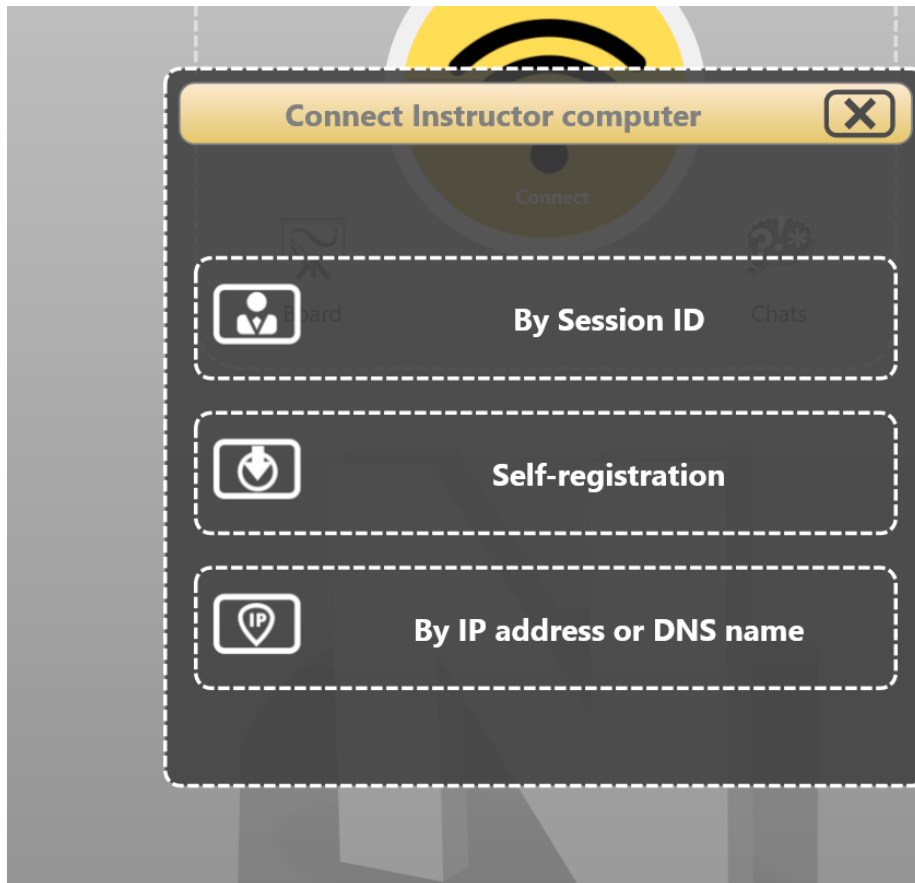
1. The teacher shares their Teacher Session ID code with students. This code is available in the teacher console, on the About tab, in the upper-left corner of the About window:



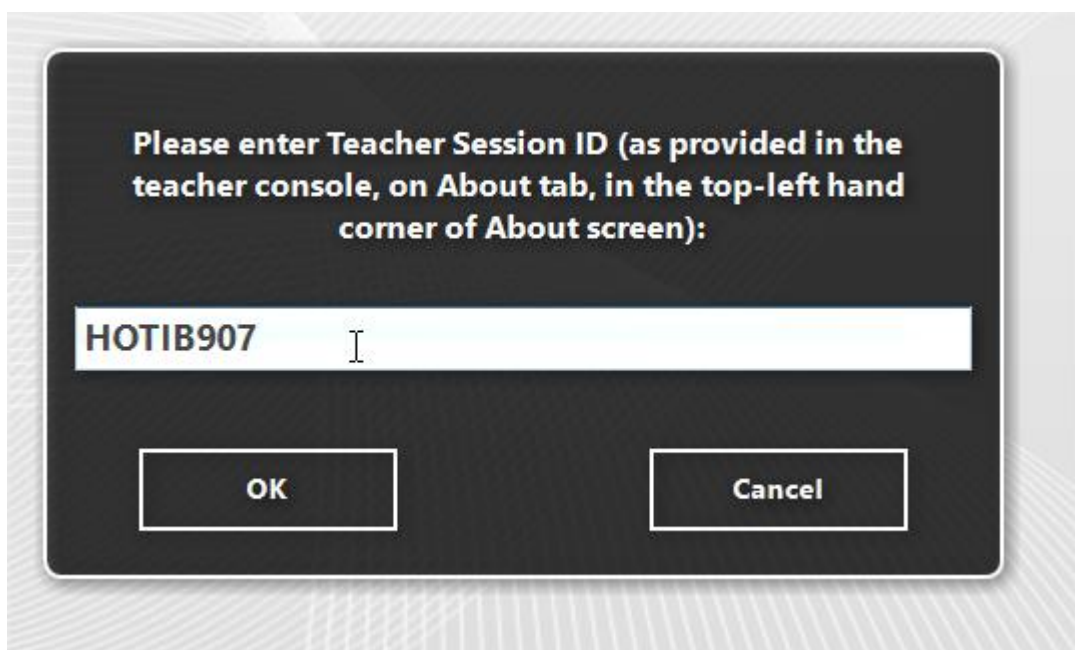
2. Students open Student Console using the icon in the System Tray or the Net Control 2 toolbar (if enabled), then click the "Connect" button:



3. In the window that appears click "By Session ID" button:



4. Enter the Teacher Session ID code and click OK:



Connections created with this feature are always temporary – they exist only for the current session and close automatically when the user logs off. \*\*\* “live” within the current session

only, and are closed automatically after the user log off.

### **Connect by IP address or network computer name**

In the same manner as described above, when “Allow connecting Instructors by IP address/DNS name” option is enabled in the student module settings on the 1:1 tab, students can connect teachers by providing a teacher’s IP address or a network name of the teacher computer.

To connect a teacher, click the Connect button of the student console, and then use “By IP address or DNS name” button, enter an IP address or DNS name of the teacher computer and confirm the operation.

Connections created with this feature are always temporary – they exist only for the current session and close automatically when the user logs off. \*\*\* “live” within the current session only, and are closed automatically after the user log off.

### **Self-registration**

Self-registration works differently in the Classroom and Professional editions.

#### **Self-registration in Classroom edition.**

The behavior of this feature depends on the student module settings (see the 1:1 tab at the beginning of this chapter):

**Allow Self-Registration** – enables the self-registration feature.

**Show after logon** - if enabled, the self-registration window will automatically open after a user is logging on.

**Show after disconnect** - if enabled, the self-registration window will automatically open on the student computer after disconnecting from a teacher.

**Restricted mode** – prevents closing the self-registration window without registration.

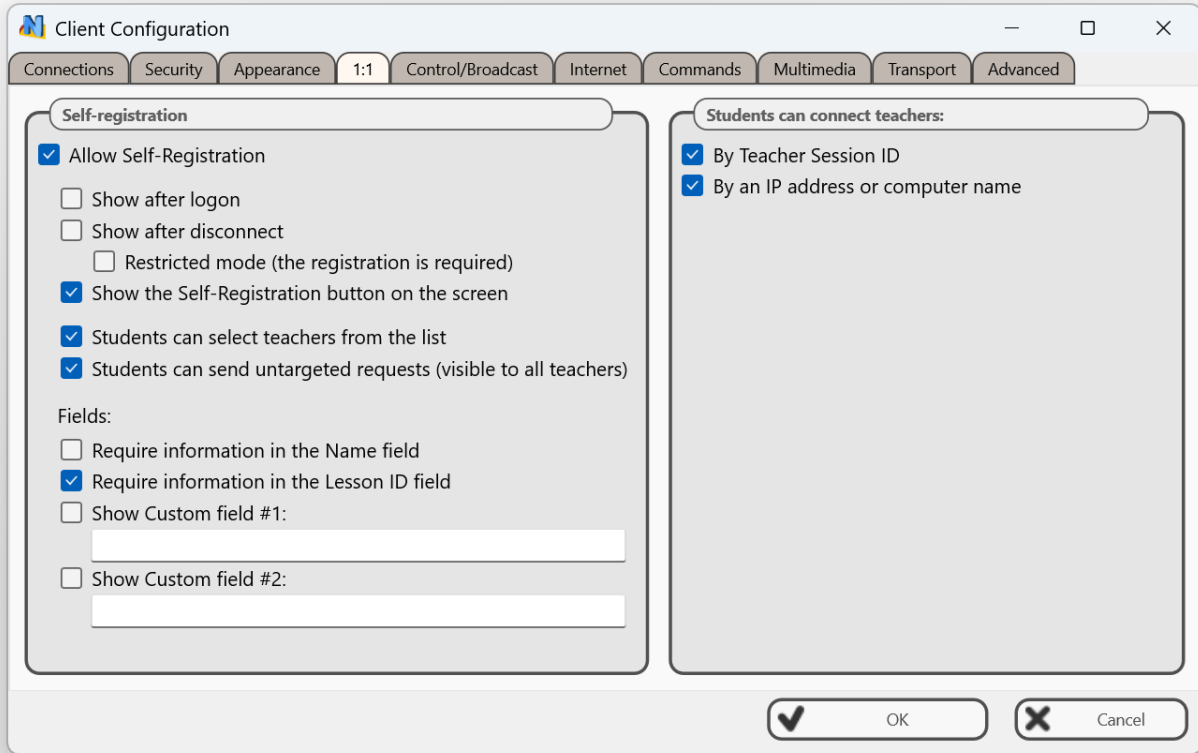
**Show a button on the screen** – displays a self-registration button on the screen when the student is not connected to any teacher, for quick access to the self-registration tool.

Student can select a teacher from the list – in the process of self-registration, students can see a list of currently available teachers in the network, and select a teacher from the list.

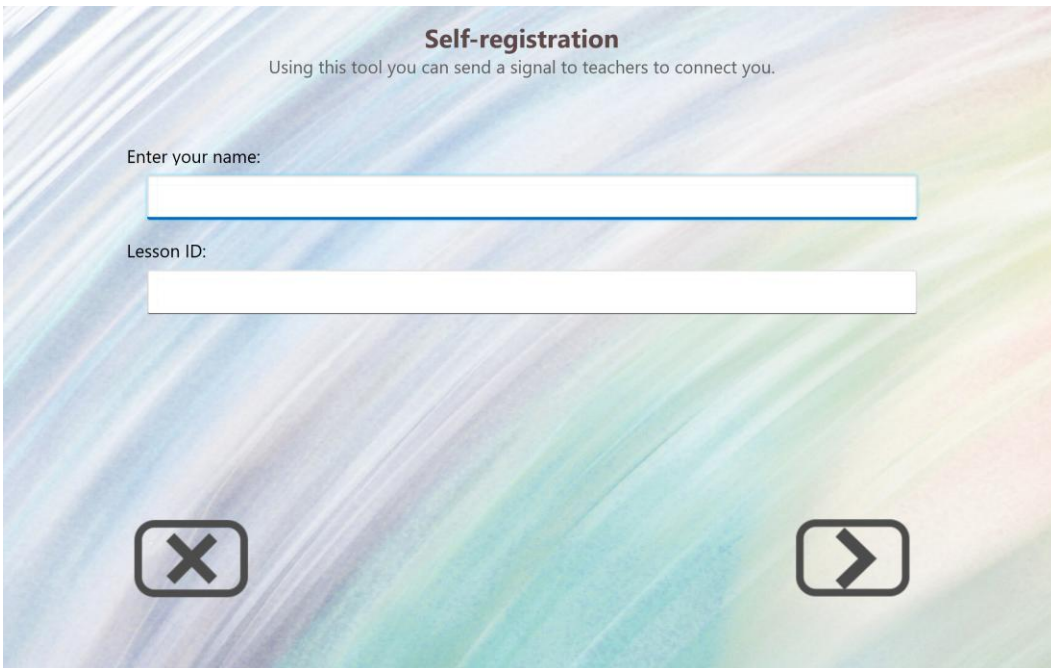
**Any teacher can see the student and accept registration** – when enabled, in the process of self-registration, the student module posts the entered by the student information to all teachers in the network, teachers then can accept necessary requests confirming the connection.

**Fields** – enables or disables fields of the self-registration form. Two custom fields may be

included to the form with a custom label on them.



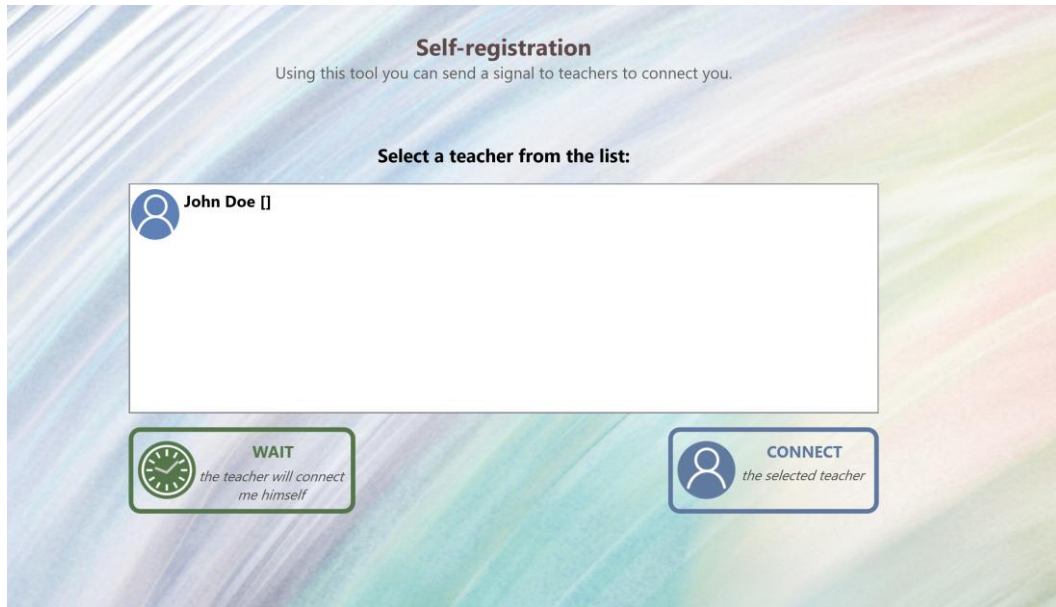
When the self-registration window appears, the student enters their information:



All fields except the "Enter your name" field are optional and displayed only if enabled in

the self registration settings.

After entering the required information, if "Students can select a teacher from the list" option is enabled, the student module will display a list of available teachers. The student can select a teacher from the list and click **Connect** button.

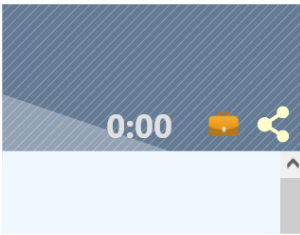


Otherwise, the student can click the Wait button to send a connection request to all teachers in the network.

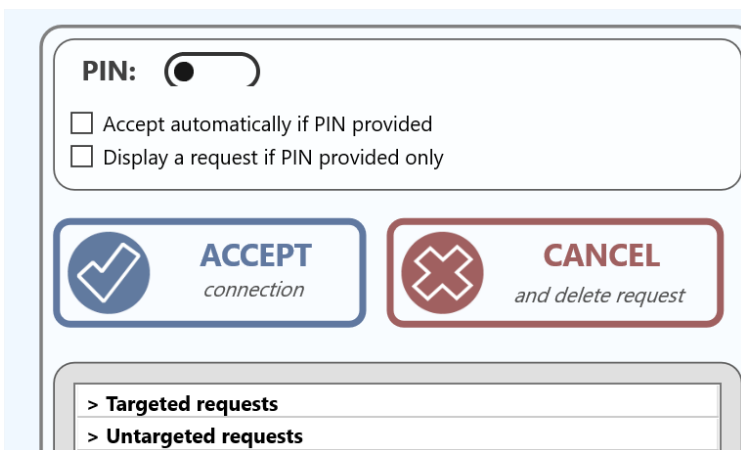
In the process of waiting while the teacher accepts the connection request, the student can click "Close and wait in background" button for closing the self registration window and waiting for the teacher connection in background, or click Cancel button to cancel the request.



When a teacher receives a connection request, the pending connections icon will be flashing in the top right hand corner of the teacher console:



After clicking the icon, the teacher can see a list of pending connection requests, and can accept or reject them:



Targeted requests – are requests that were sent to this teacher directly, by selecting him/her in the list.

Untargeted requests – are requests that were sent to all teachers in the network.

The teacher can enable a PIN code to secure self-registered connections. If “Accept automatically if PIN provided” option is enabled, the teacher module will automatically accept all requests that were sent with a correct PIN code provided.

If “Display a request if PIN provided only” option is enabled, the teacher module will display targeted requests only if a correct PIN code was provided by the student.

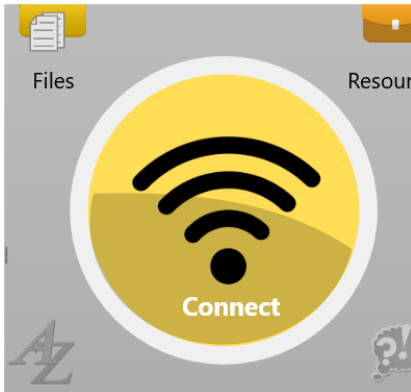
The teacher module’s self-registration settings can also be configured under N – Options – Options; Connections page.

## ***Self-registration in Professional Edition***

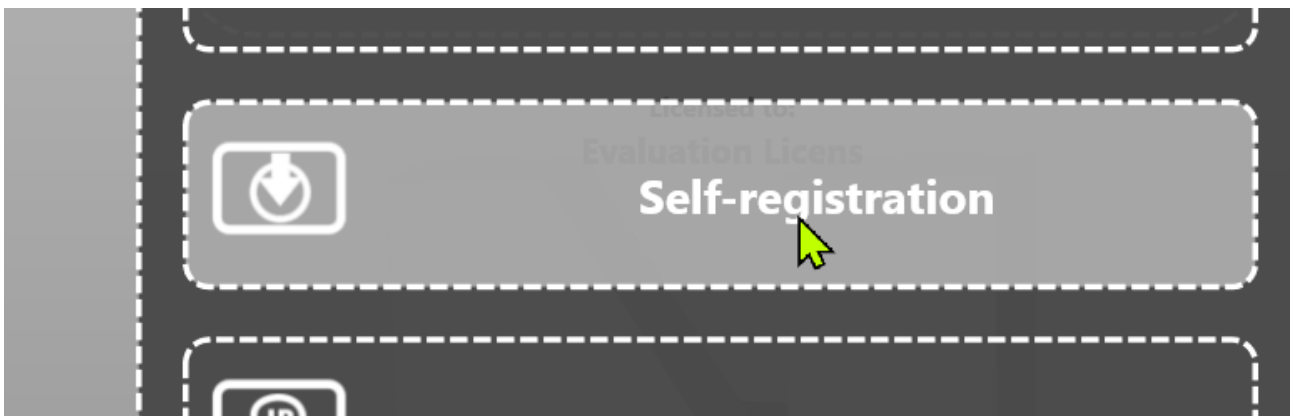
***Self Registration*** in Net Control 2 Professional is available only when enabled on both teacher and student computers.

To initiate the connection on a student computer, open Student Console:

- **left click** Net Control 2 PRO icon in the System Tray
- or **right click** Net Control 2 icon in the System Tray, and use the Connect button:



Click the Self-registration button:



Select a teacher from the list and confirm. The student module will connect to that teacher computer and add a new connection to its workspace.

To disconnect from the connected teacher computer, click the same command again, and Student Console window should display information about existing connection, click **Disconnect** button to close the connection.

To allow student-initiated connections, the teacher module must be configured accordingly: in Teacher module click the main menu command **N -> Options -> Options**.

On **Connections** page the **Self-Registration enabled** option should be **enabled**. New student connections are automatically placed in the currently open group on the teacher computer and removed automatically upon disconnect.

In addition to standard groups, the groups list on the teacher computer will contain a special **<SELF REG.>** group. This group is empty by default and will contain only student-initiated connections.



Student Self-Registration can be enabled or disabled in the client configuration. To change this setting remotely from the teacher computer:

- select student computers;
- click the main menu command **N -> Options -> Client Options**.

## I. Student Module settings.

The Student Component may be configured remotely from Teacher Module or on a Student Computer directly.

### To configure Student Module remotely from Teacher Console:

- select the Student Computers
- click menu command **N -> Options -> Client Options** or just click the **User Opts** button on the **Advanced Tools** tab
- configure the options as specified below
- click the **OK** button

### To configure Student Module on a student computer directly:

- click on the Net Control 2 icon in the System Tray
- then click the **Configure** menu command
- Configure options
- click **OK**

## Connections

Classroom and SmallClass editions:

Instructor computers:

teacherpc01  
 teacherpc02  
 teacherpc03

IP address or DNS name, one address per line

Group Name:

[DEFAULT]

If you want to make this computer a member of a group, specify here the group name. Leave this field empty, if this computer is a member of Default group.

Allow Instructors to find this computer in the network

Connection password

To find this computer in the network Instructors must specify...

Alias (alternate name):

[USER NAME]

This name (alias) will be displayed in the teacher console as the connection name in User Name View mode. By default (when is not set), a user name or login name will be used.

OK

Cancel

Professional Edition:

Client Configuration
— □ ×

Connections
Security
Appearance
1:1
Control/Broadcast
Internet
Commands
Multimedia
Transport
Advanced

Connection Server:

host

Specify IP address or DNS name of Net Control 2 Connection Server, which will manage further teacher and student connections.

Student ID:

Student ID is an optional, custom identifier of this computer. Net Control 2 Connection Server can form groups by Student IDs, computer names or user names.

Alias (alternate name):

[USER NAME]

In the User Name View mode of the teacher console, this alias will be displayed as the connection name instead of the login or user name .

OK

Cancel

**Instructor computers** – a list of teacher computers, to which this student module will be connected. The teacher computers should be referenced by their IP address or DNS (network) name, one address per line. SmallClass edition allows only one teacher to be specified.

**Group Name** – Group Name to which the computer belongs. For more information about groups, please see [Chapter E](#). (Classroom Edition only)

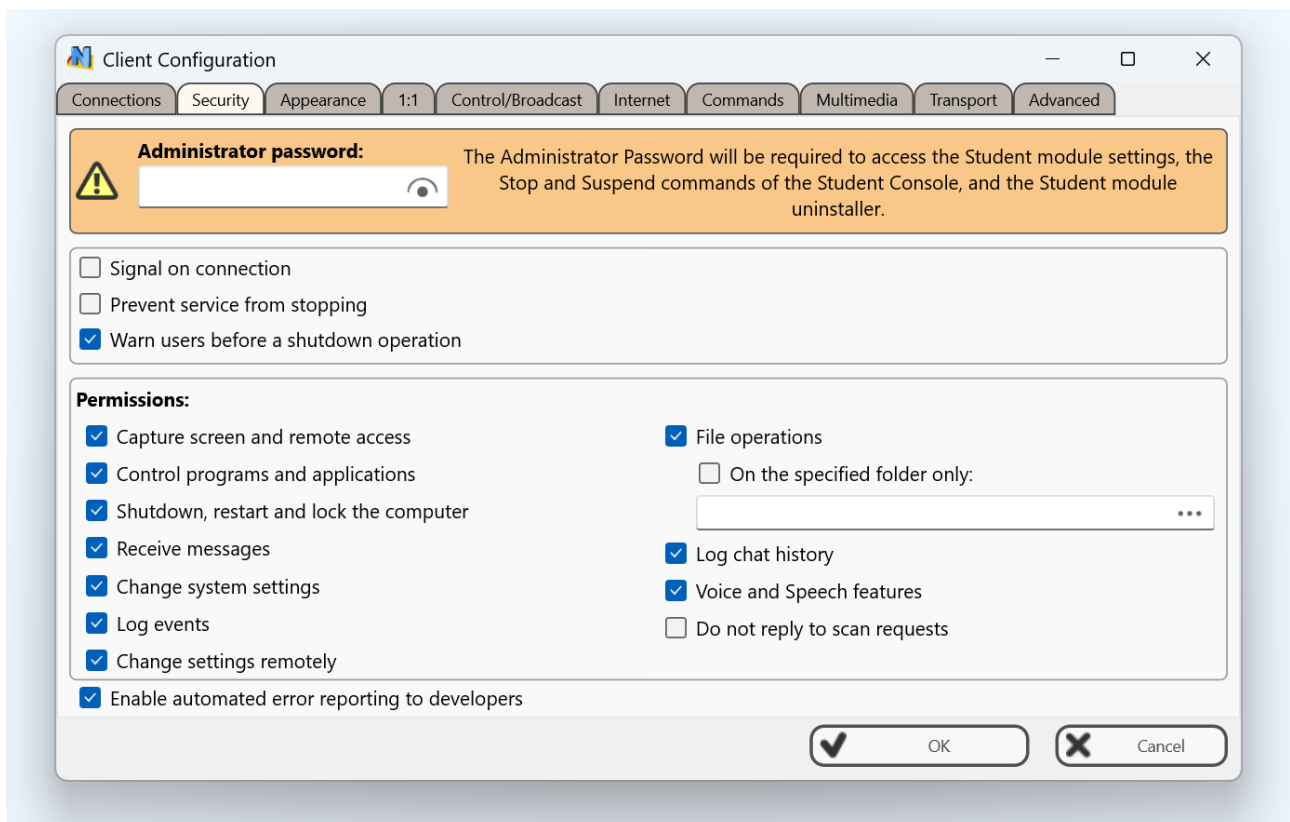
**Allow Instructors to find this computer in the network, Connection Password** – enables finding this computer in the network by teachers not specified in the Instructor computers list, for more information please see [Chapter E](#). (Classroom Edition only)

**Alias (alternate Name)** – this name will be displayed when Teacher switches the view mode from *Computer Name View* to *User Name View*. If it is left blank or [USER NAME] value is specified, the name of the currently logged in user will be displayed.

**Connection Server** – Professional Edition – an IP address or computer name of the Connection Server computer.

**Student ID** – Professional Edition – optional identifier of this computer that can be used in Connection Server Management Console for assigning one or more computers into a group.

## Security



**Administrator password** used when a user attempts to change the settings of the student module or clicks the menu commands "Stop" or "Exit". We recommend setting this password to prevent unauthorized stopping or reconfiguration of the Net Control 2 service.

**Signal On Connection** - when enabled, any connection of Teacher computer will be accompanied with a sound signal and text message.

**Prevent service from stopping** – when checked, the user will not be able to stop Net Control 2 Client service using Services console of Administrative Tools or net.exe system program.

**Warn user before shutdown operation** – enables 20-second timer before applying a shutdown, restart or logoff operation.

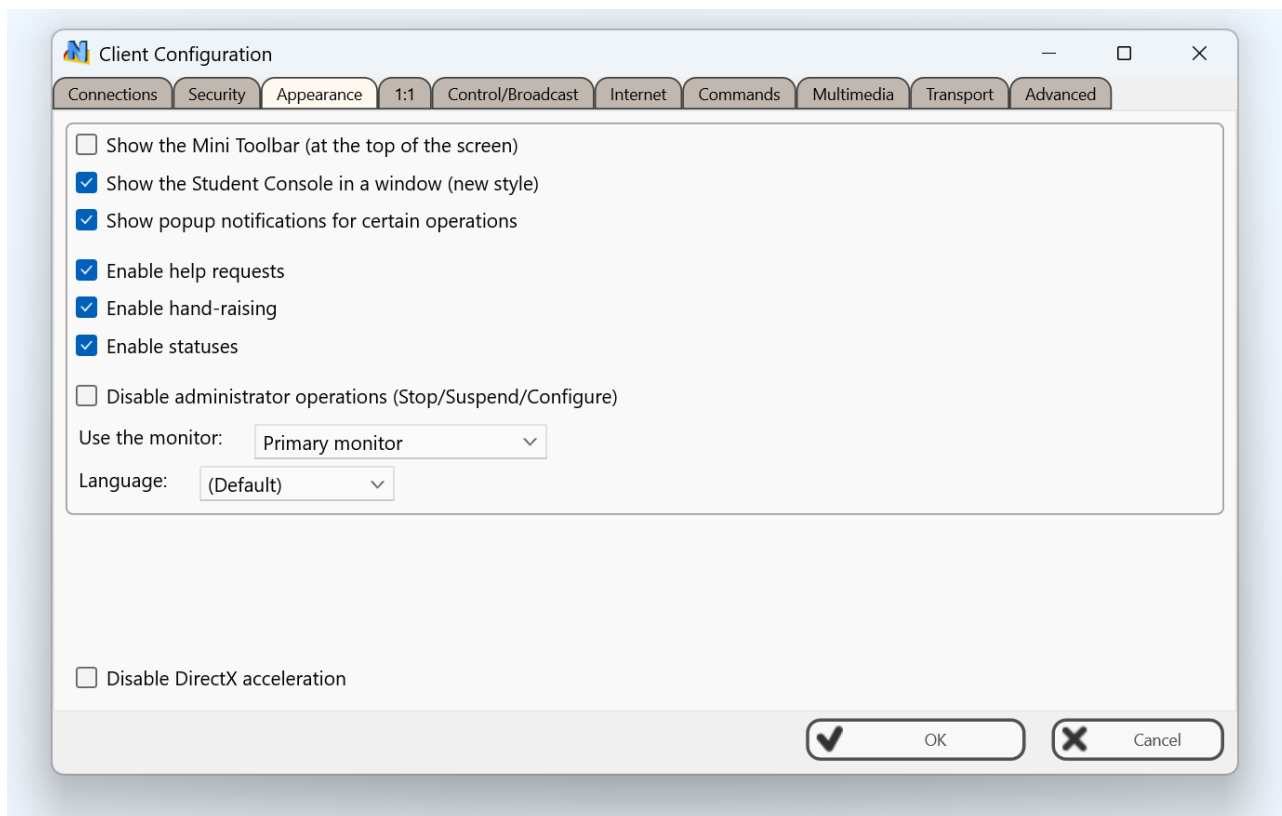
**PERMISSIONS** – allows limiting the functionality of service. When permission is disabled, all features related to this permission will be disabled:

- **Allow changing Server settings remotely** - when this permission is set, the Teacher can change Server settings remotely via the Net Control 2 Client.
- **Control Desktop objects** - permission for controlling the Desktop of the user computer remotely, receive screenshots, run Remote Desktop and Broadcast Desktop sessions, change resolution, etc.
- **File Operations** - permission for file operations between computers. When additionally, "**On the specified folder only**" option is set, all file operations may be performed within the specified folder only.
- **Control programs** - permission to execute and terminate programs and services remotely.
- **Shutdown, restart, lock** - permission to perform power-related operations, like shutdown, reboot, stand-by etc., and lock and unlock computer remotely.
- **Receive messages** - permission to receive messages from the Teacher computer.
- **Log Events** - permission for Events Watcher and Events Logger tools.
- **Change system settings** - access to Registry, Policies, and access to the Internet etc.
- **Allow Help Requests** - when enabled, student can send Help requests to Teachers via Net Control 2 Server menu.
- **Log Chats History** – chat history will be logged in *C:\Users\YOURLOGINNAME\AppData\Roaming\Net Control 2\nc2chat.log* file for Net Control 2 MiniChat and in *C:\Users\YOURLOGINNAME\AppData\Roaming\Net Control 2\nc2cchat.log* file for Chat tool.
- **Do not reply to scan requests** -when enabled, the service will not respond to scan requests sent from any Instructor computer.

**Enable automatic error reporting to developers** – enables anonymous reports to the software developer about critical errors occurred in the student module. The error reports contain only common information regarding the error and a place in the program, which

has raised the error.

## Appearance



**Show the Mini Toolbar** – when enabled, the student module will display the mini toolbar in the top area of the screen, the popup toolbar provides quick access to Student Console; Lesson Resources and Raise Hand features of Student Console.

**Show the Student Console in a window (new style)** – enabled by default. Disable the option if you prefer the classic layout, aligned to the right side of the screen.

**Show popup notifications for certain operations** – when enabled, the student module will display a popup notification to a user when the teacher uses Control (Remote Desktop) command, runs a program or URL on the student computer, applies a new restriction profile, and for several other operations.

**Enable help requests** - when enabled, a student can send help requests to teachers.

**Enable hand-raising** – when enabled, a student can “raise hand” in the Student Console. This raised hand status will be shown in the teacher console, the teacher can accept the request (“to call on” the student) or reset the status.

**Enable statuses** – enables “user statuses”. The user status is a short string that is visible on teacher computer in student connection properties, and it’s shown in a tooltip when a student is changing his/her status. With this tool students can quickly communicate with

teachers sending short messages to the teacher.

**Disable administrator operations (Stop/Suspend/Configure)** – when enabled, the Student Console will not provide access to “Stop”, “Pause” and “Configure” commands of Student Console.

**Use the monitor** –in a multimonitor environment, here you can select a display, which will be used as a source for screenshots and thumbnails, displayed on the teacher computer.

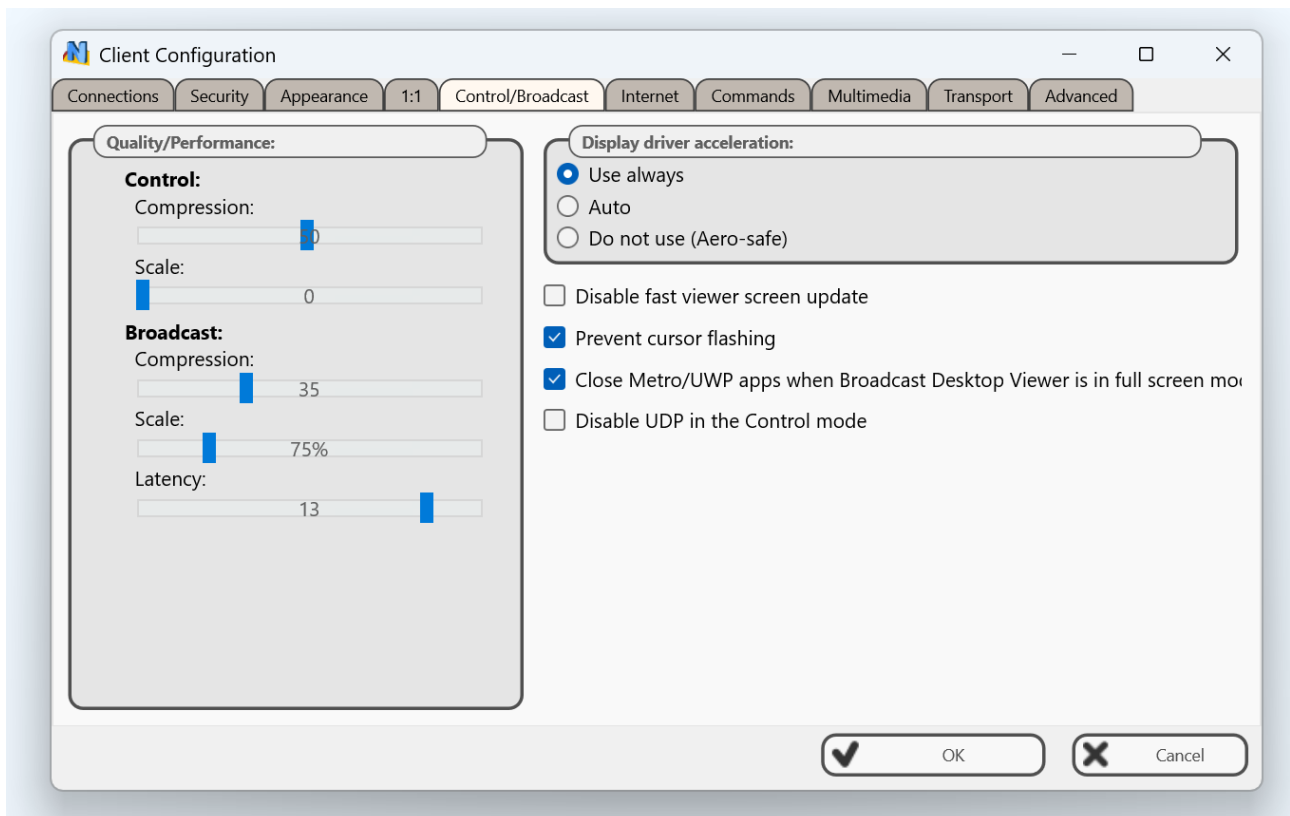
**Language** – allows choosing a language used by the student console.

**Disable DirectX acceleration** – enable this option, if you experience issues with compatibility of Net Control 2 software with DirectX drivers.

## 1:1

Options of 1:1 tab are described in the [Chapter H](#).

## Control/Broadcast



### Quality/Performance.

Use this option to adjust the level of performance/quality for Remote Desktop and Broadcast Desktop features. Moving the slider to the left increases image quality on the remote computer but also increases network bandwidth usage and may slow image refresh

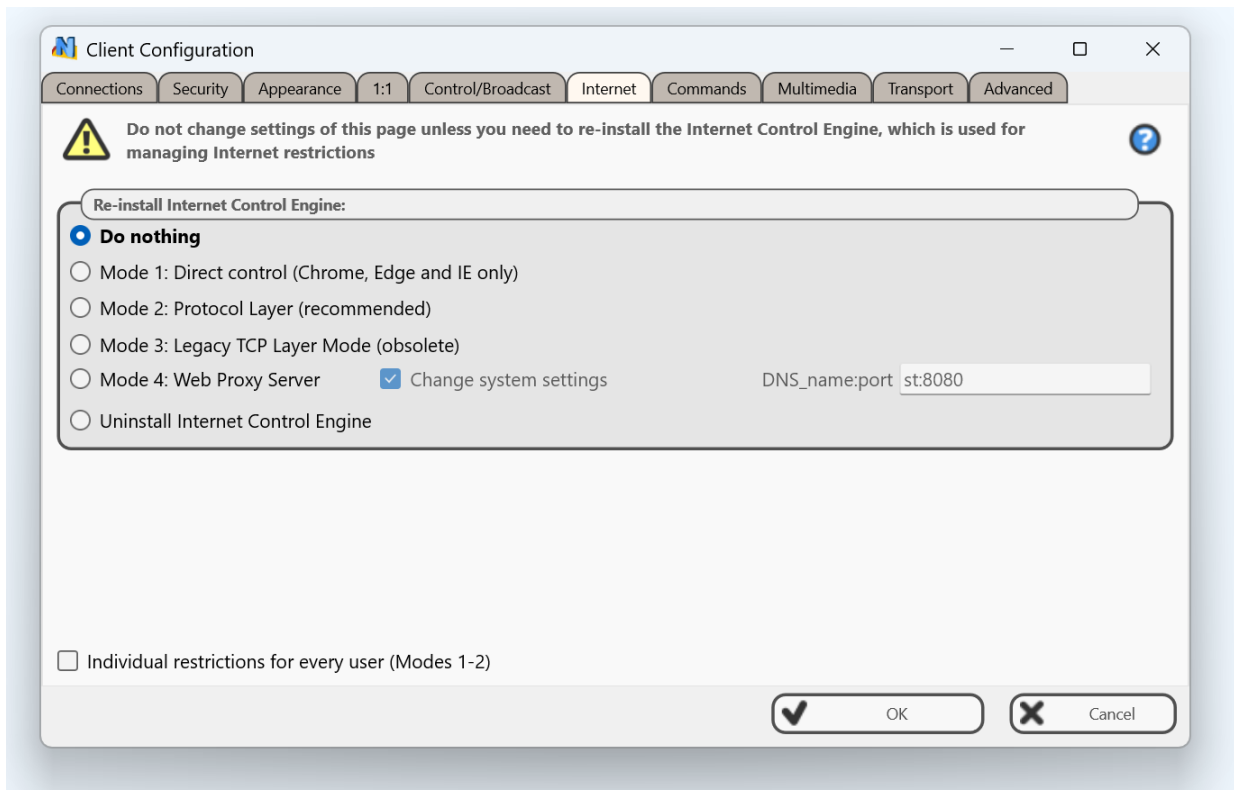
speed.

**Display Driver acceleration** – enables or disables Video Hook Driver acceleration for Remote Desktop and Broadcast Desktop tools. For Windows 8/10, “Auto” or “Use always” modes are recommended.

**Prevent cursor flashing** – in several cases, some display/theme configurations may result flashing the mouse cursor on student computers when Remote Desktop session (“Control” command) is active, or on a teacher computer in Broadcast Desktop session. To avoid this issue you can enable this option.

**Close Metro/UWP applications when viewer is in full screen broadcast mode** – in Windows 8, full-screen Metro-applications may overlap Net Control 2 Broadcast Desktop Viewer window, making it invisible for students. When this option is enabled, the student module will automatically close all Metro applications before opening Broadcast Desktop Viewer window.

## Internet

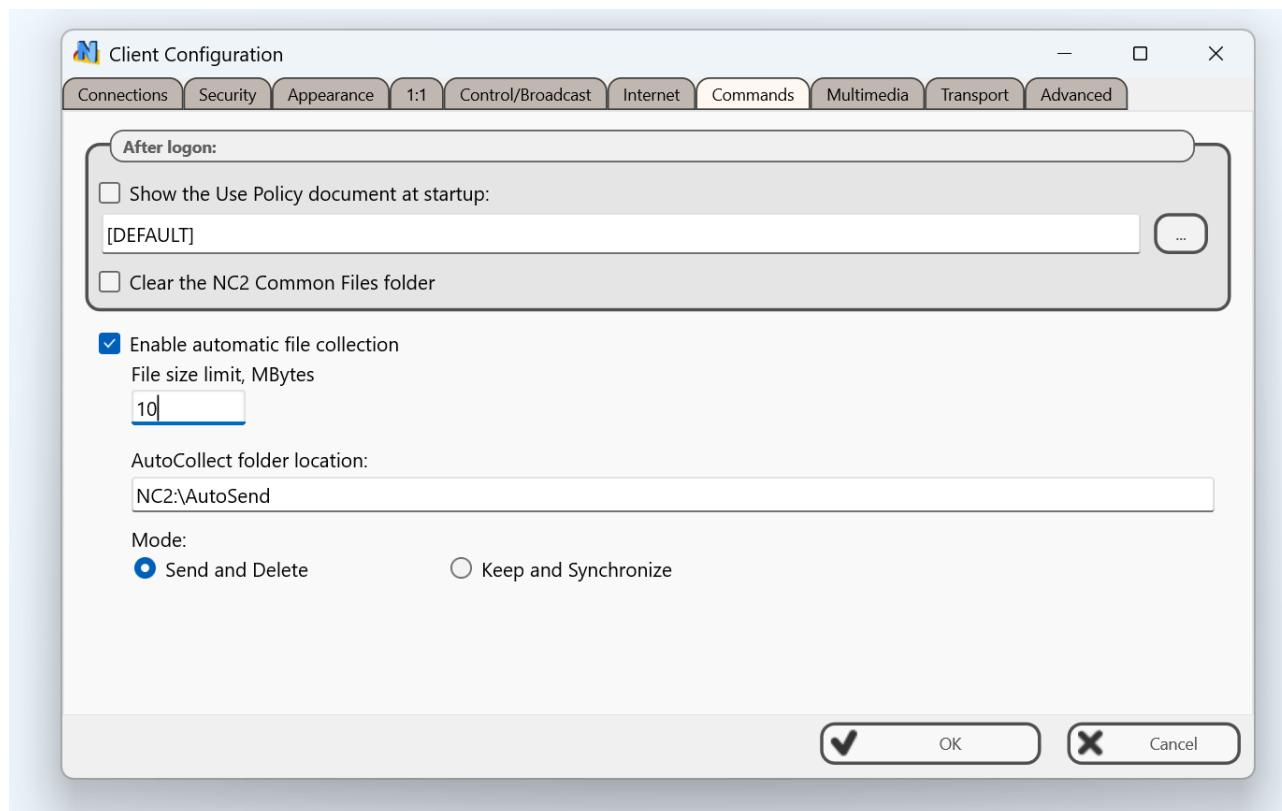


Settings of the Internet tab are provided for troubleshooting issues with blocking websites with Internet restrictions. Usually you do not need to change these settings. For more

information about web restrictions and Internet Control Engine modes, see the Tools and Features Guide, available at <https://www.netcontrol2.com/documentation>, please refer the Chapter "Restrictions".

The default and recommended mode for Windows is **Mode 2- "Protocol Layer Mode"**.

## Commands



**After logon operations** are performed by the service automatically after a user logs on.

**Show Use Policy document at startup** – when enabled, the service displays the Acceptable Use Policy document at user logon. You can also specify a path to a custom RTF or text file to display instead of the default AUP document.

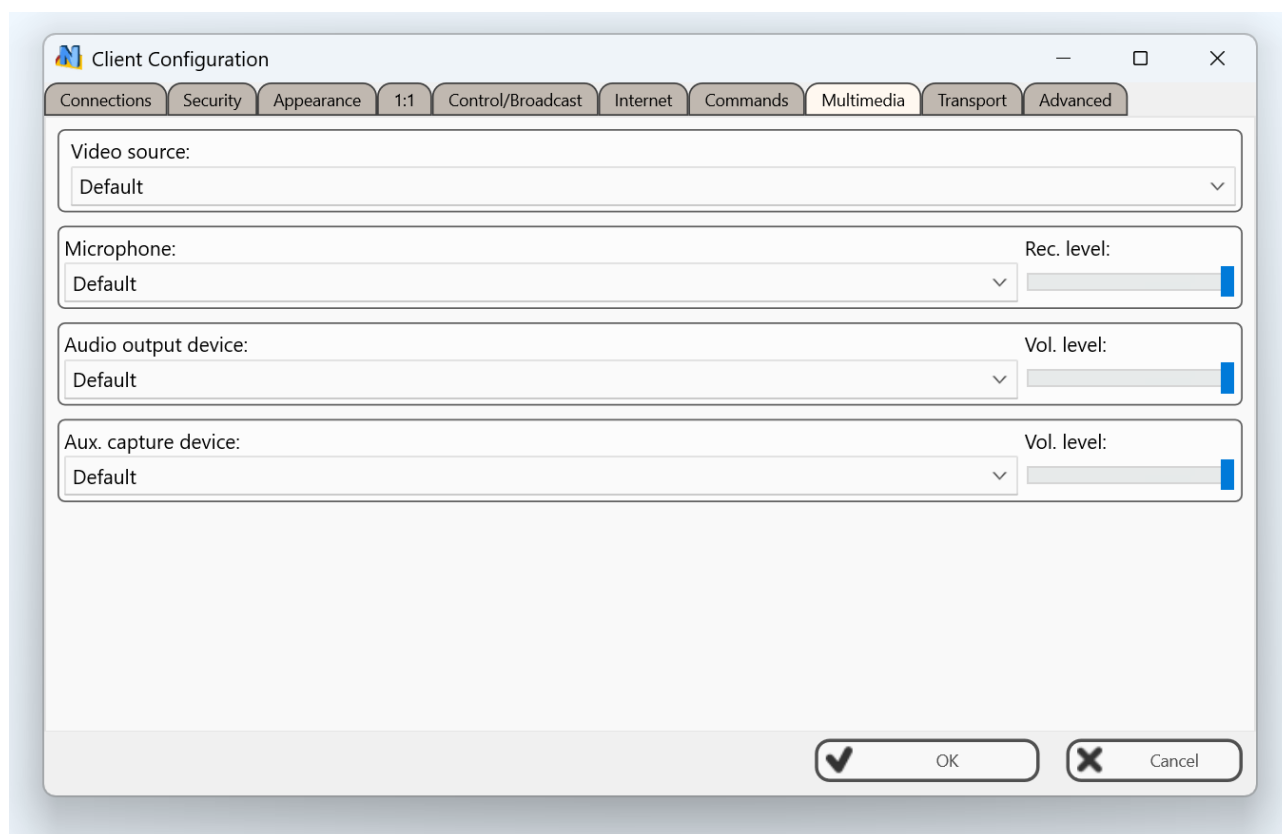
**Clear NC2 Common Files** – when enabled, NC2 Common Files folder will be automatically cleared on user logon

**Enable automatic file collection** – when enabled, Net Control 2 Student module will maintain a special "AutoSend" folder, so all files saved in this folder will be synchronized with connected teacher computers. Here you can also set up a path for the folder (by default it is in **Net Control 2 Common Files\AutoSend** folder on Desktop), and a limit for

files that will be sent to teachers.

Two modes for this feature are available: **Send and Delete** – when files, copied to the AutoCollect folder, will be sent and immediately deleted from the folder; or **Keep and Synchronize** – when files in the AutoCollect folder will not be deleted, but synchronized between teacher and student computers.

## Multimedia

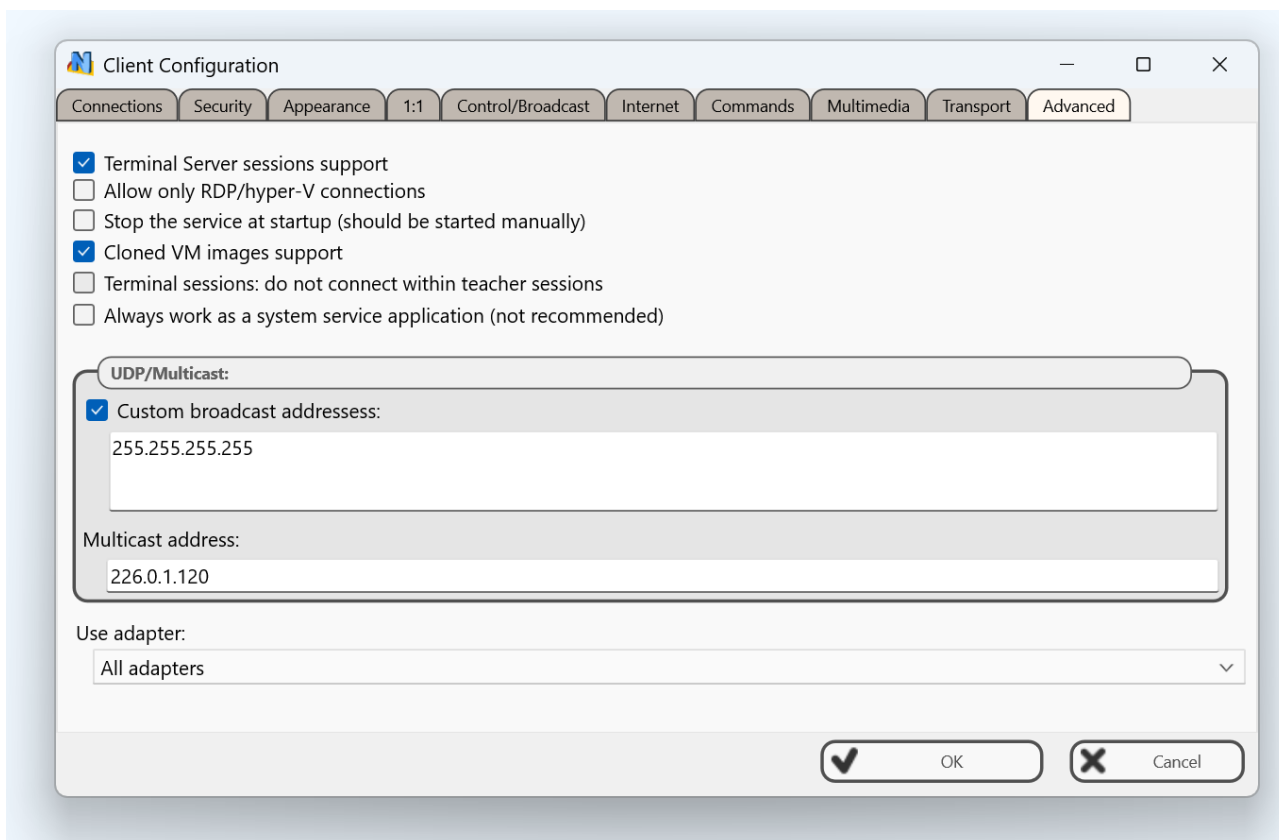


Multimedia tab allows modifying multimedia capture and output devices used by the Language Lab, Speech and Camera, Screen and Camera Recorder tools.

## Transport

Settings of the Transport tab determine how data is transferred between teacher and student computers in the local network. For more information please see the [Transport Protocol](#) chapter of this guide. The Transport protocol is available only in certain realizations of the software.

## Advanced



**Terminal Server sessions support** – if enabled, the student module will create a separate connection for users in terminal or RDP Windows sessions, this option is enabled by default. Uncheck this option only if you need that only default, active “console” sessions of Windows Terminal Server are visible in the teacher console.

**Allow only RDP/hyper-V connections** – recommended only for environments where students work on their computers over RDP connection, for example, for Hyper-V virtual machines. In this case, two connections may appear for one computer (as a screen of the “console”/logon session and a screen of RDP session). This option disables the student module in the console (real) sessions and enables it only for terminal sessions. **Please enable this option only if you are sure that RDP connections are available for student computers.**

**Stop service at startup (should be started manually)** – when enabled, the student module will be “stopped” at Windows startup, students need to click a special button of the Student Console in order to run the service. In the “stopped” state, the student module does not establish network connections with teachers.

**Cloned VM images support** – when enabled, the student module supports installation from an image, when the same settings are cloned for all student computers.

**Terminal sessions: do not connect within teacher sessions** – when enabled, in the terminal server environment, the student module will not connect the teacher module if it

is running within the same session. Useful, when student and teacher modules are installed on the same terminal server.

**UDP/Multicast** – here you can change settings of UDP Broadcast and Multicast protocols used by the software.

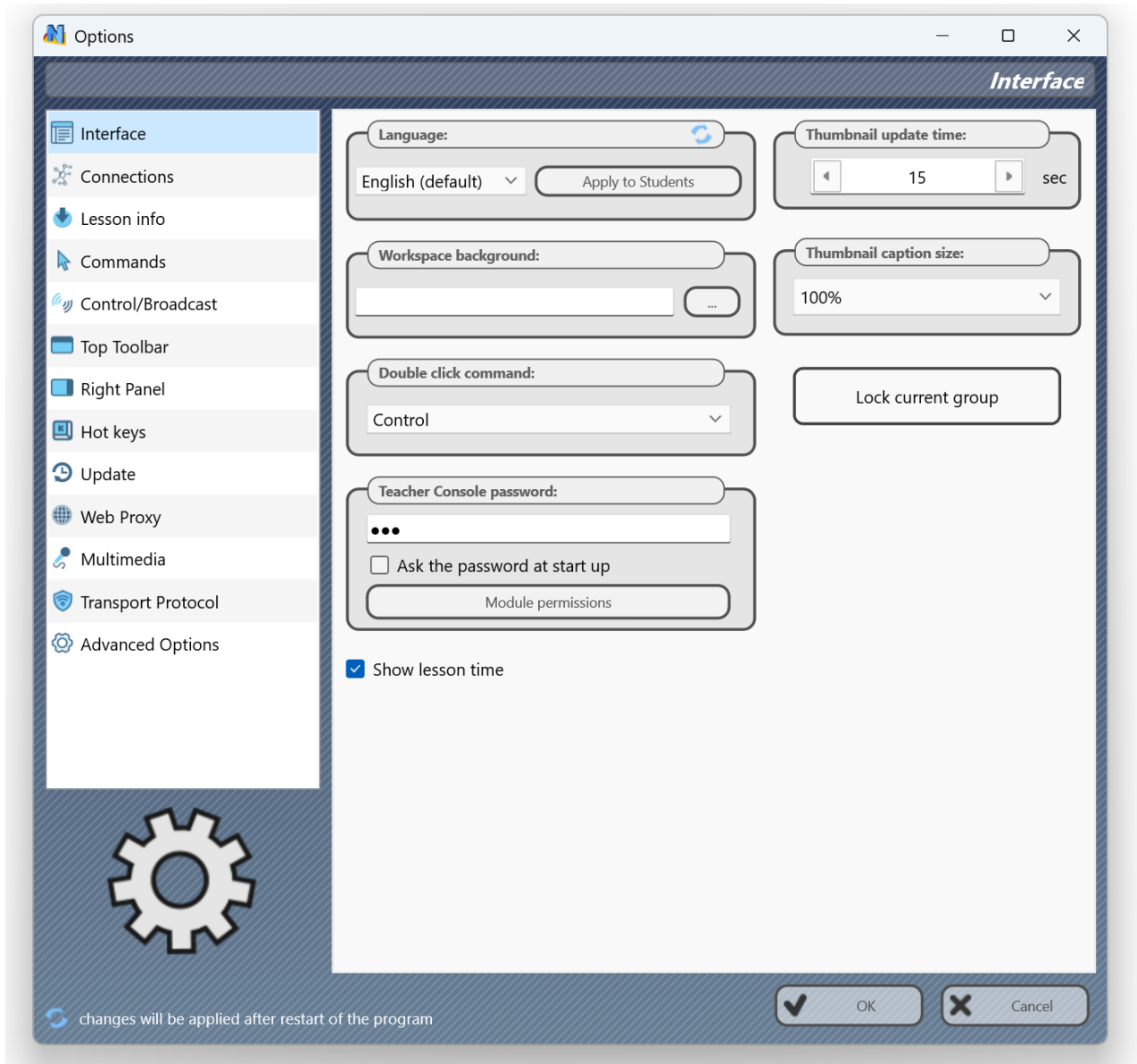
Use adapter – if the computer has multiple network adapters, and Net Control 2 student module activity should be allowed only within bounds of one adapter's network, here you can set up what adapter is used by the service.

## **J. Teacher module settings**

To change settings and options of Net Control 2 Teacher Console, click the main menu command **N -> Options -> Options**.

Several options of Control Options window are marked with (\*) sign. To change these options you need to run the teacher module as administrator: in Windows 7-10 right click Net Control 2 Classroom shortcut on Desktop or in Start menu, then click menu command **Run as Administrator**.

### ***Interface***



**Language** – select a language for the user interface. To apply language settings to client computers, select them in connections list, then select a language and click the **“Apply to Students”** button.

**Workspace background** – use this option to set up background picture for the connections list.

**Double-click command** – specifies the command, which will be performed when a user double clicks a thumbnail in the connections list. Default double-click command opens Remote Desktop session with the selected computer.

**Teacher Console password** – here you can set up a password for the teacher console. If the **Ask Password at startup** option is enabled, the password will be required at the teacher module startup. Otherwise the password is used by **Lock Console** command when

you need to block the teacher module temporarily.

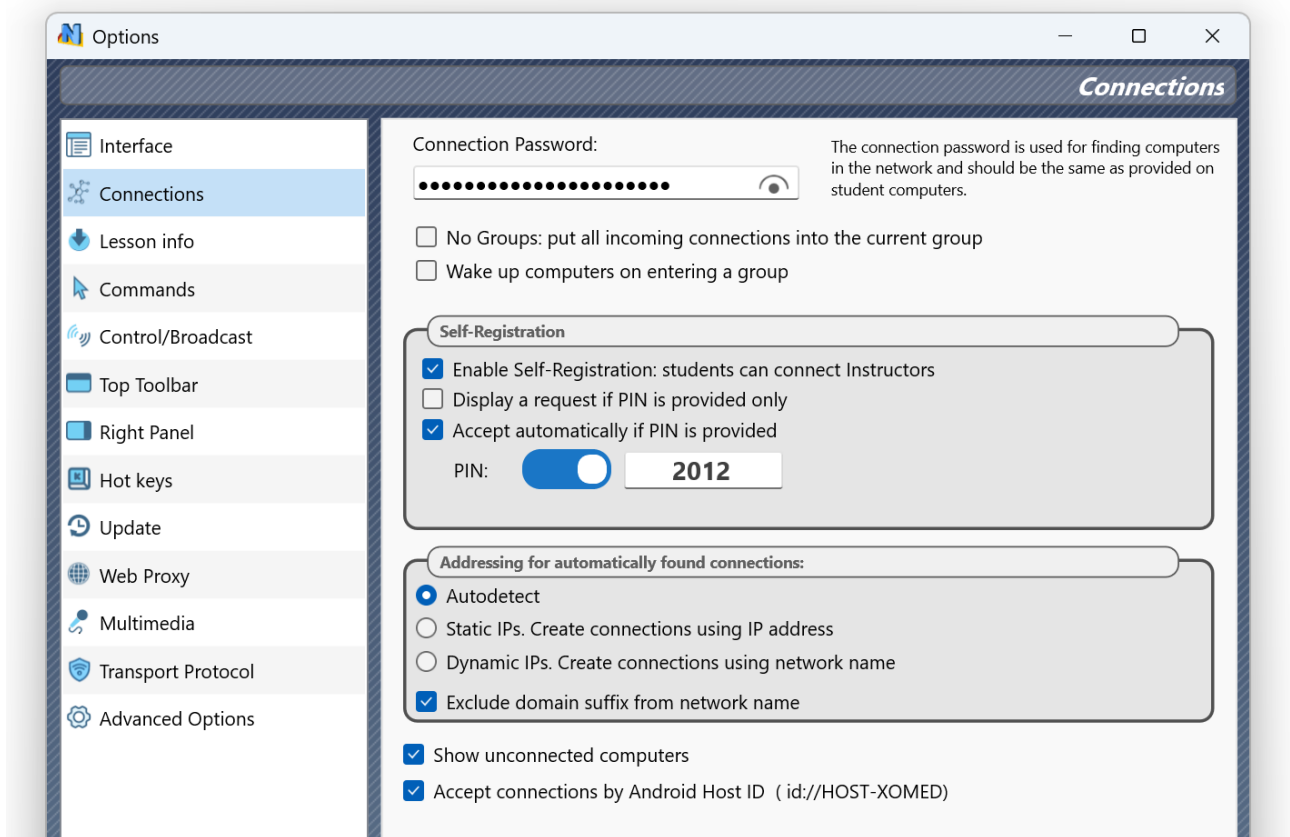
**Module permissions** – click this button to set up Windows security settings for the teacher module program file.

**Thumbnail update time** – specifies a refresh interval in seconds, when thumbnails of client connections will be updated.

**Thumbnail caption size** – here you can adjust the size of the caption block of the thumbnail shown in the teacher console. Make it larger or smaller than the default one.

**Show lesson time** – when enabled, the lesson time will be displayed on the top toolbar of the teacher console.

## Connections



**Connection Password** – the password used by the teacher module for search operations and direct connections.

**No groups: put all inverse connections to the current group** – in this mode, the teacher module ignores group settings and puts all incoming student connections into the current group. This mode may be useful for solving issues with incorrect group settings on student

computers, or if the software is used in isolated classrooms with one group only.

**Wake up computers on group entry** – if enabled, when a teacher opens a group, the teacher module will send a Wake up signal to computers of the opened group to turn them on. Computers must support Wake-on-LAN and must have connected to the teacher module at least once previously.

**Self Registration** – configures self registration options of the teacher console. For more information about Self-registration feature, please refer [Chapter H](#) of this guide.

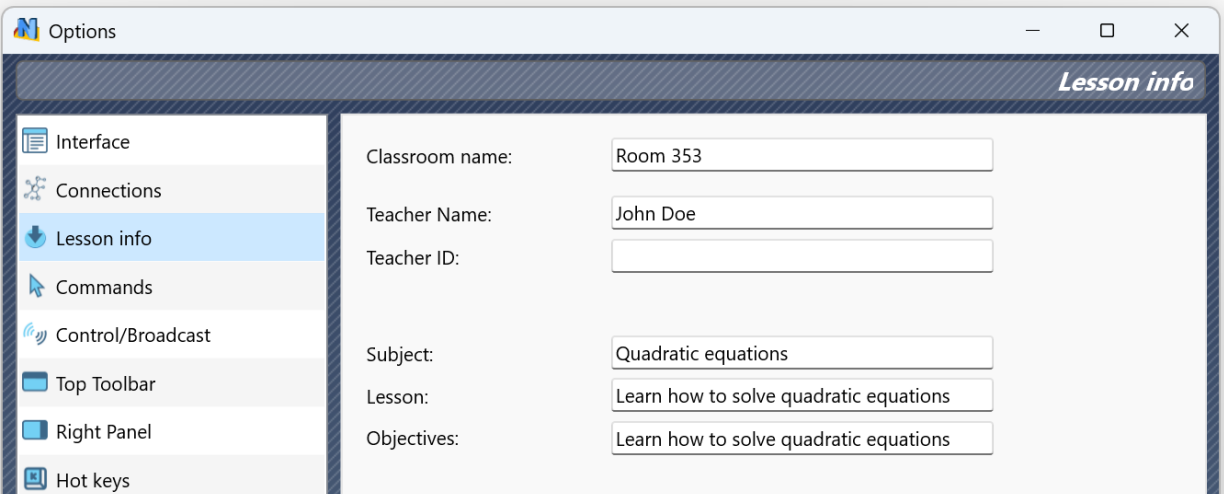
**Addressing for automatically found connections** – these settings are in effect for Search tool, when you are scanning the network for permanent local connections. Here you can set up the addressing mode for the found connections: to address them by an IP address or computer name.

**Show unconnected computers** – when enabled, the teacher module will show currently unconnected computers in the connections list.

**Accept connections by Android Host ID** – Android devices can address this teacher computer by Android Host ID specified in brackets. For example, instead of using an IP address of the teacher computer, you can use the specified address, e.g. id://HOST-XOMED for the example on the screenshot to address this computer.

## Lesson Information

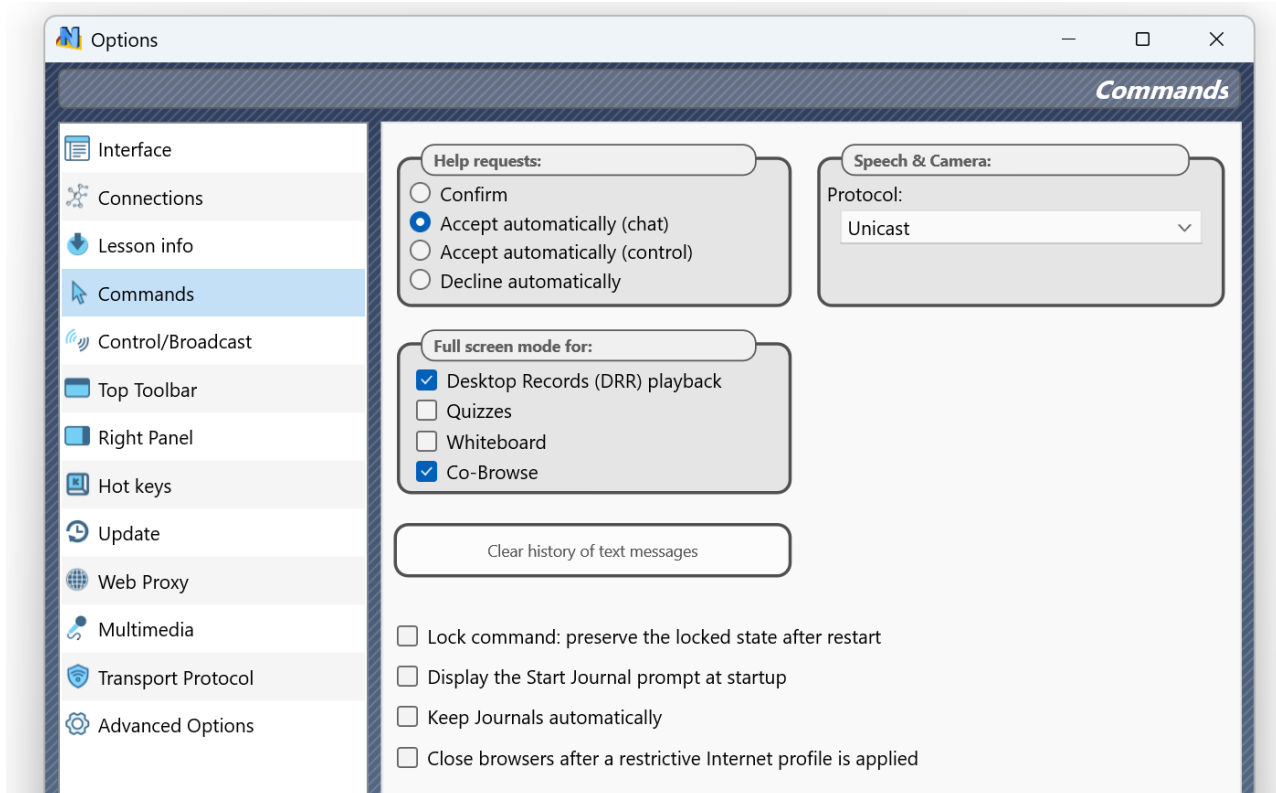
The information on this page can also be updated using the Start Journal, Lesson Resources, and Student Registration tools. Teacher and lesson information is visible to students in the Student Console window.



The screenshot shows a window titled "Options" with a sidebar on the left containing menu items: Interface, Connections, Lesson info (highlighted), Commands, Control/Broadcast, Top Toolbar, Right Panel, and Hot keys. The main area is titled "Lesson info" and contains the following fields:

Classroom name:	<input type="text" value="Room 353"/>
Teacher Name:	<input type="text" value="John Doe"/>
Teacher ID:	<input type="text"/>
Subject:	<input type="text" value="Quadratic equations"/>
Lesson:	<input type="text" value="Learn how to solve quadratic equations"/>
Objectives:	<input type="text" value="Learn how to solve quadratic equations"/>

## Commands



**Help requests** – determines a default action, which will be applied when a teacher receives a help request from a client computer:

**Confirm** – the software will prompt the teacher what action should be applied;

**Accept automatically (chat)** – accepts the request and initiates a chat session;

**Accept automatically (control)** – accepts the request and initiates remote control session;

**Decline automatically** – help requests will be automatically declined.

**Lock command: lock input devices after restart** – when enabled, and client computer was locked with the “Lock” command, Net Control 2 Client will restore the locked state of the client computer after restart.

**Display the Start journal prompt at startup** – when enabled, the teacher console will display the “Start journal” prompt at program start up. For more information please refer to **the Journal** chapter of Tools and Features Guide.

**Keep journals automatically** – the teacher module will start a new journal automatically for each new session, when you are opening the teacher console, and will save it

automatically when you are closing the program; the current journal will be stored in Documents\Net Control 2 folder.

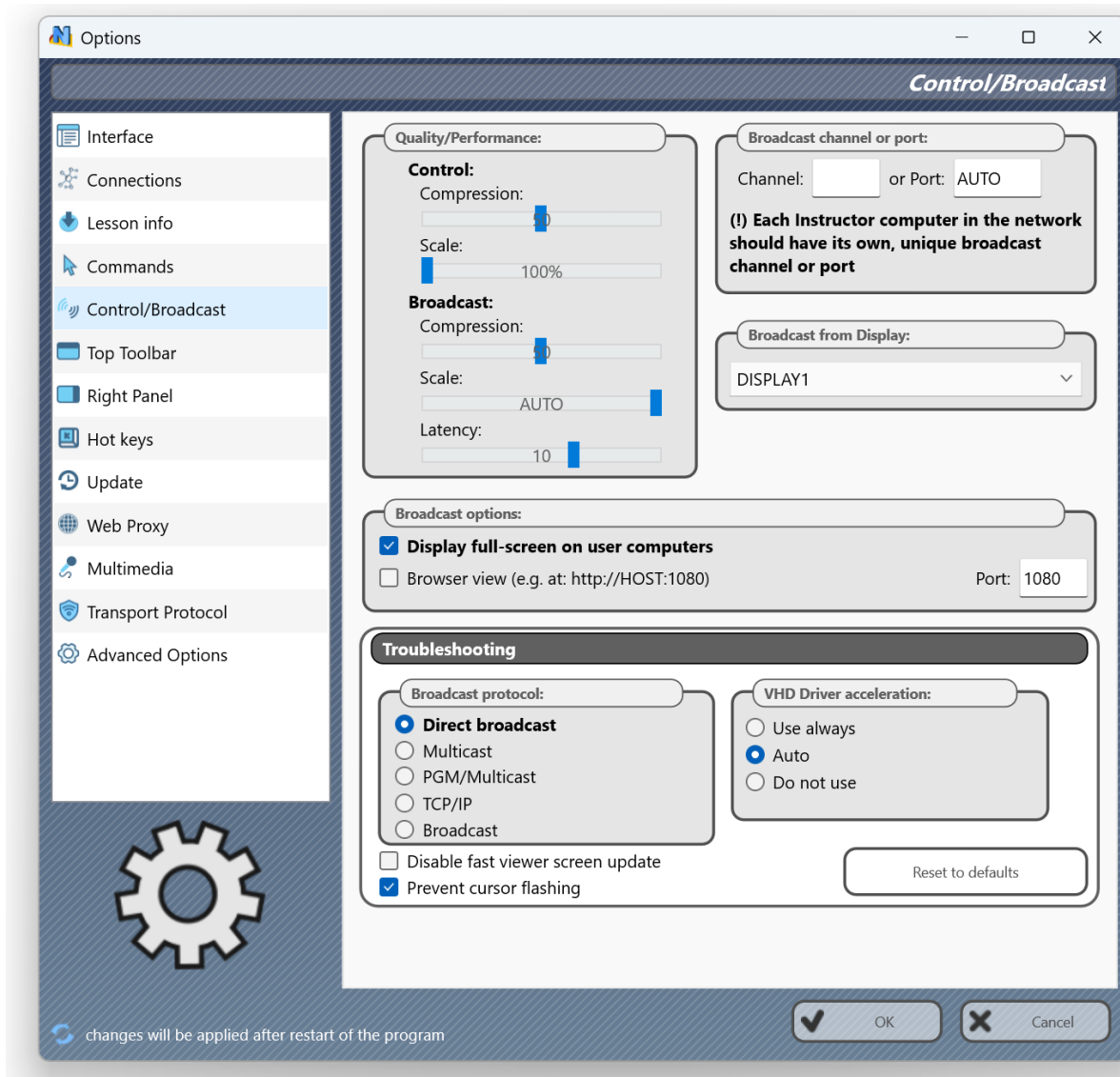
**Close browsers after a restrictive Internet profile is applied** – to apply web restrictions immediately, in certain modes and configurations, a user need to restart the browser. Enable this option to restart the browser on student computers automatically after you apply a web restriction profile that disables access to websites.

**Full screen mode** – enables the full screen mode on student computers for Co-Browse, Whiteboard and Quiz tools as also for Desktop Records (DRR) playback.

**Clear history of text messages** – clears history of messages sent using the Message and Poll tools.

**Speech and Camera** – allows adjusting the connection protocol used by Speech and Camera tool. The default mode is Unicast. You may need to change it to Multicast when communicating with a large number of students, for better performance.

## Control/Broadcast page



**Control/Broadcast** page changes various settings used by Control (Remote Desktop), View and Broadcast tools. Please note, these settings have effect on Broadcast Desktop engine of this computer only, i.e. cases when the teacher shares his/her screen with students using Broadcast Desktop tool. The respective settings of the student module change behavior for the tools on the student computer.

**Quality/Performance** – move the top slider of the section to adjust quality/performance ratio for Control tool, and the bottom slider to change settings for Broadcast Desktop tool. Moving the slider to right, you are increasing the compression rate for the screen capture images, so each screen update generates less the network traffic making the performance better, but also high compression rates degrade the picture quality.

**Broadcast from Display** – here you can select a display in the multimonitor environment, which will be used as a source for Broadcast Desktop tool, the image will be captured from

this display only.

**Broadcast channel** or port – in order to avoid interference between different classrooms when Broadcast Desktop tool is used simultaneously, you need to assign a unique Broadcast Desktop channel to each teacher computer in the network. We recommend setting up Channel 0 for the first classroom, 1 – for the second classroom etc. The channel number will be automatically mapped to a network port used by the software.

### **Broadcast options:**

**Display full screen on user computers** – when enabled, Broadcast Desktop viewer window will be displayed full screen on student computers; the teacher can switch between the full screen and windowed modes using the respective button of Broadcast Desktop toolbar.

**Browser view** – when enabled, in Broadcast Desktop mode, the teacher module will also establish a web server that will be showing the current broadcast desktop image in any browser. To watch the broadcast desktop session from any browser, just type the computer name of the teacher computer and the browser view port number (1080 by default), e.g.: <http://myteacher:1080> where myteacher is the computer name of the teacher computer. The performance of this tool is significantly lower of the original Broadcast Desktop tool performance, but allows showing the screen on devices that do not support Net Control 2 clients.

## **Troubleshooting**

Options of this section help solving performance issues of Broadcast Desktop tool.

**Broadcast protocol** – determines a network protocol used by Broadcast Desktop tool. The default Direct Broadcast protocol sends image to each student computer individually, providing optimal performance on a moderate number of students. This mode generates significantly higher volume of network traffic than multicast protocols produce. If you need to broadcast the screen to a large number of recipients, Multicast protocol may become more effective. If Multicast protocol is not supported by the network, Broadcast protocol may be used instead.

**VHD driver acceleration** – determines the mode of screen capture. "Use always" mode enables the VHD engine for screen capturing, "Do not use" disables it, and "Auto" mode enables VHD always in Windows 8, 10, 11 and higher, in Windows 7 the use depends on the system settings. We recommend enabling VHD for all situations, except if you experience issues with the screen capture on the teacher computer (white screen, artefacts, low update speed).

**Prevent cursor flashing** – if you experience the mouse cursor flashing during Broadcast Desktop session, enabling this option should solve the issue. When this option is enabled, the capture engine may not be able to capture semi-transparent windows.

**If you experience issues with Broadcast Desktop performance, please try to change the options of this page as follows:**

Move the Broadcast Desktop performance **slider** to the right;

Disable **Lossless compression**;

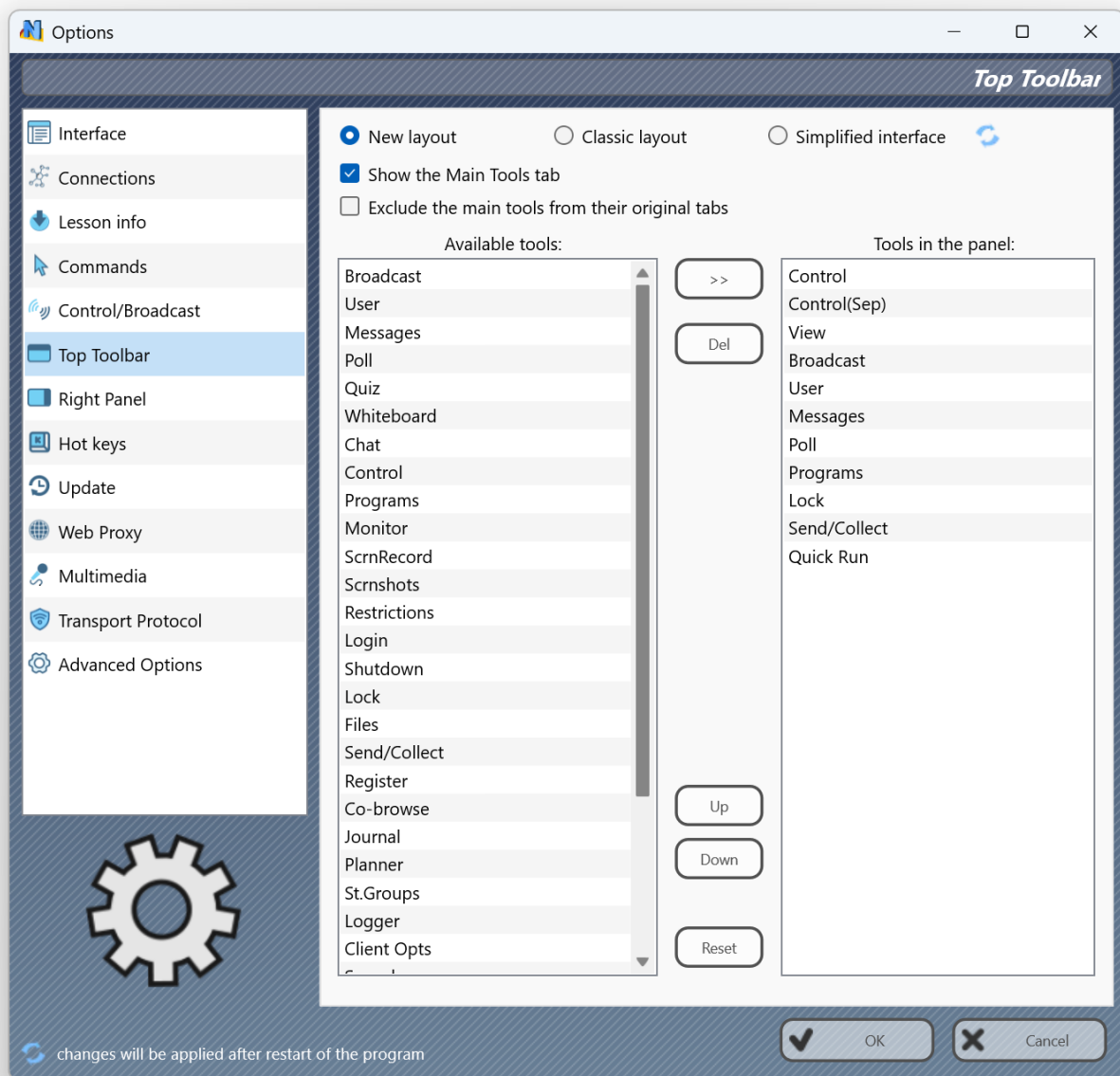
Enable **“Reduce high resolution”** option;

Set the **channel** to a number between 0 and 500.

Enable **“Direct Broadcast”** as the broadcast protocol, if this does not change the performance, please then try Multicast protocol instead.

Set VHD Driver acceleration option to **“Use always”**

## Top toolbar



The top toolbar page allows modifying the way the top toolbar is shown in the teacher console.

The following options are available:

**New layout** – divides tools to the Interaction, Management and Utilities tabs that is different from the layout used in versions of the software prior version 26. By default the top toolbar contains also the **Main tools** tab with the most important and frequently used tools. You can customize what tools should be displayed on this tab, using the **Tools in the Panel** list, placing tools here from the **Available tools** list.

**Classic layout** – the top toolbar only contains the tools divided to main groups “Control”, “Messaging”, “Advanced tools”, the default layout for versions prior 26.0

**Simplified interface** – a simplified layout for less experienced users, shows only the main

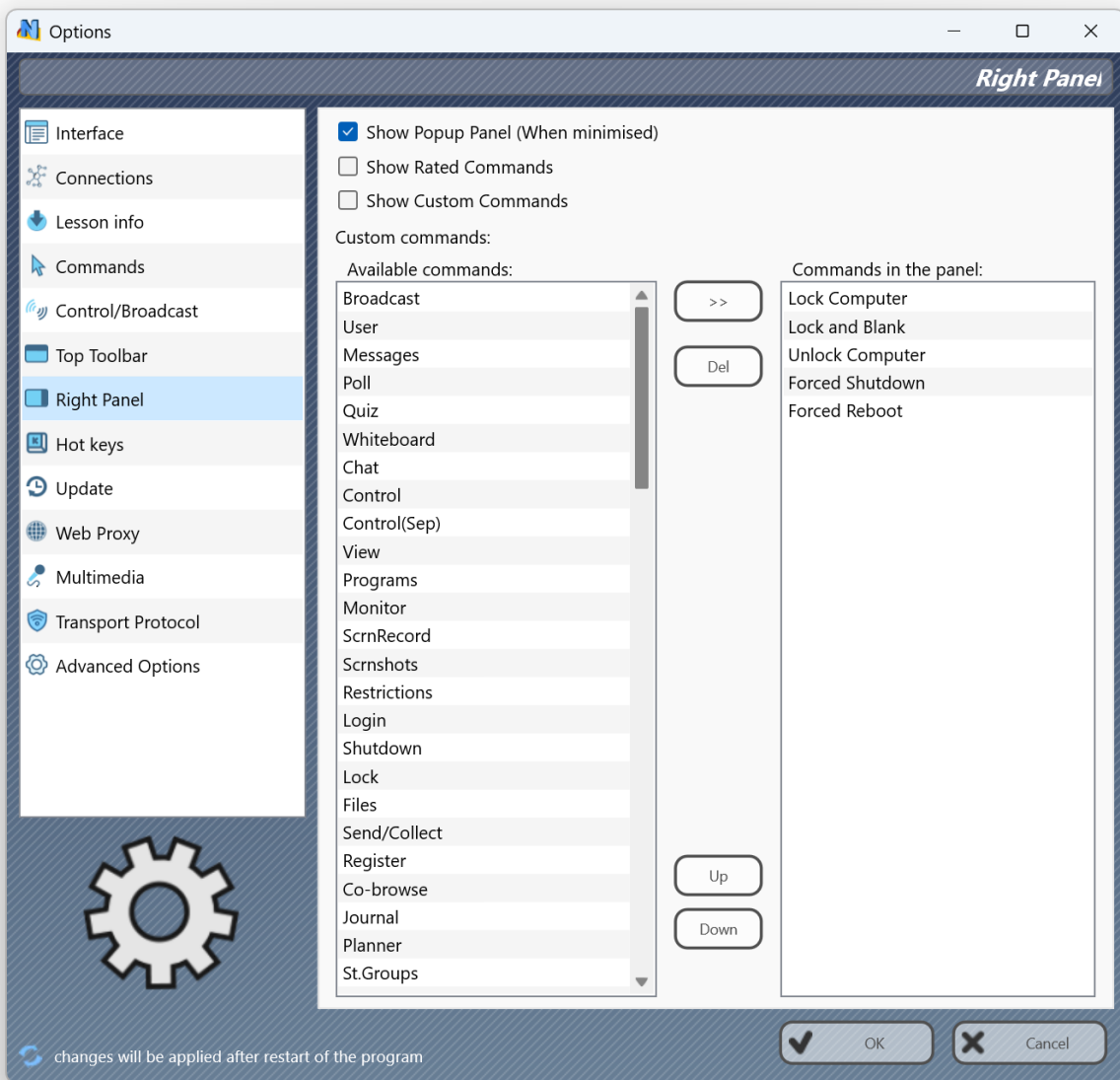
tools on one tab, and providing access to the More tools button with the rest available tools. Hides some panels, to make the top toolbar minimalistic and clean.

Show the Main tools tab – enables the Main tools tab for the New layout.

Exclude the main tools from their original tabs – when the main tools tab is enabled, enabling this option allows that only unique tools will be displayed in the rest three tabs, the Main tools tab will contains only the unique set of the most important tools too.

## Right panel

The Right panel is a special toolbar that provides quick access to the most often used features and tools.



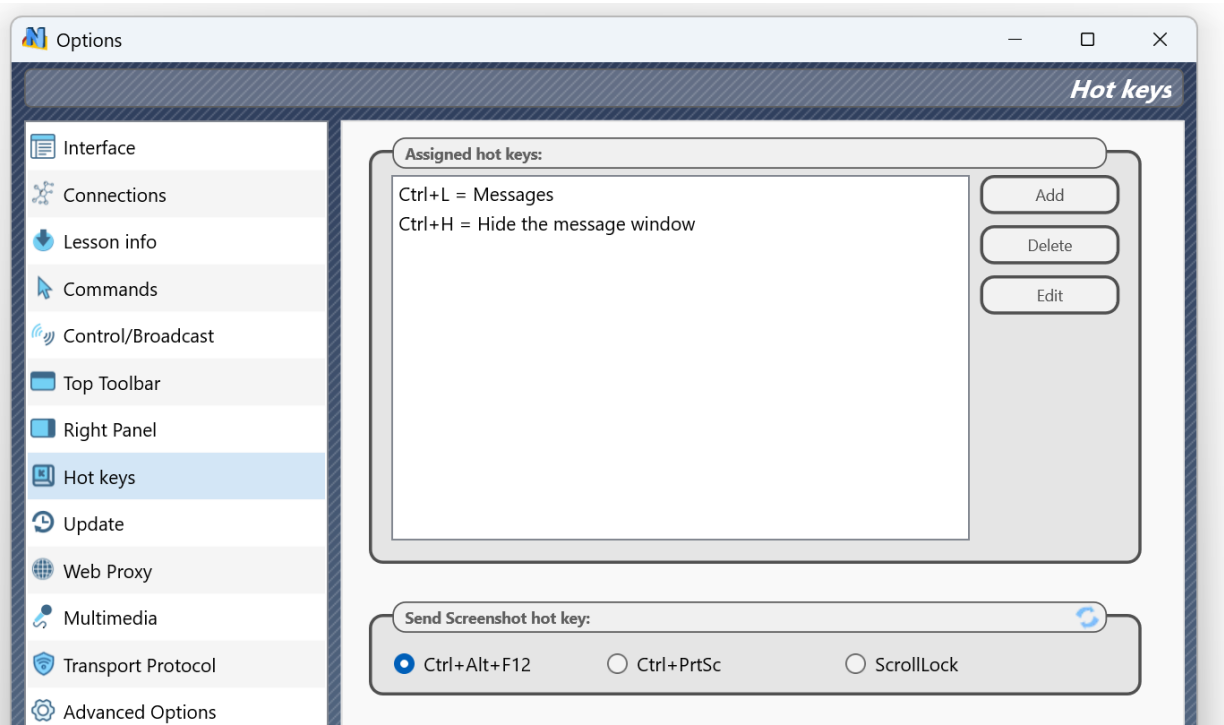
**Show Popup Panel** – when enabled, the teacher module will display a popup panel on the screen when the main teacher module window is minimized, providing quick access to the most important tools.

**Show Rated Commands** – enables or disables the Rated Commands tab on the Right panel.

**Show Custom Commands** – enables or disables the Custom Commands tab on the Right panel.

**Custom commands** – the list of commands, displayed on the Custom Commands tab.

## Hot Keys



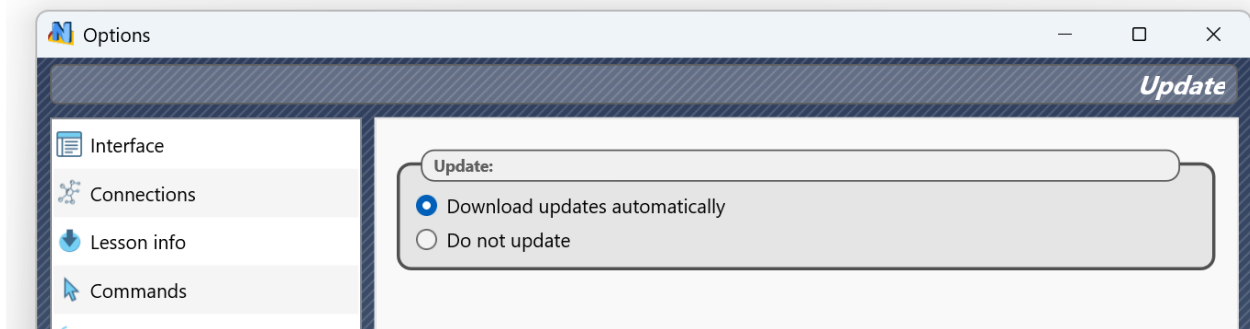
On this page you can assign a hot key to Net Control 2 Classroom tools or commands; to change a default hot key for the “Send snapshot” command.

The hot key for the “Send snapshot” command is a global key combination, i.e. it works in any Windows application when Net Control 2 software is running at background.

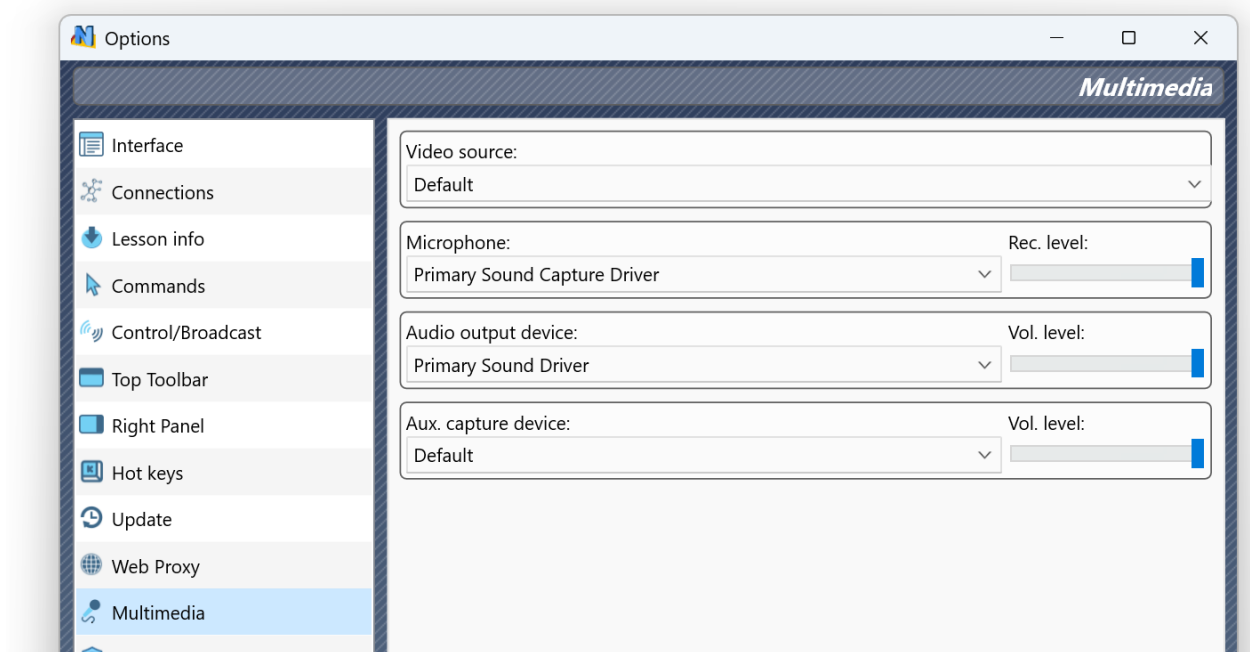
## Update

**Download updates automatically** – when enabled, the software will download and update the software on teacher and client computers automatically. To change this option the program should have administrative privileges (see the note at the beginning of this chapter). Only critical updates are passed through automatic update, regular versions should be updated manually.

**Do not update** – when enabled, the software will not check the server for updates.

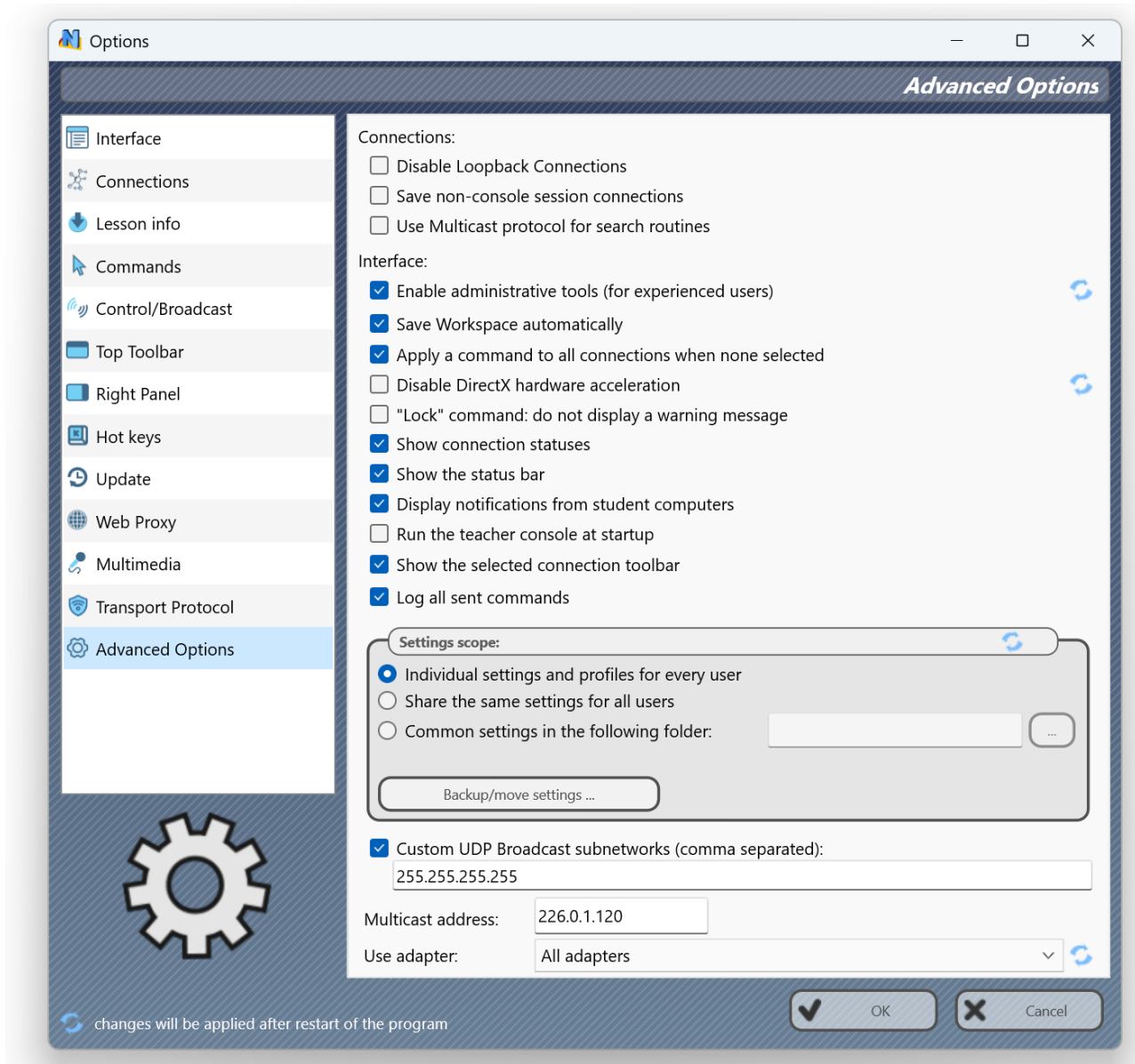


## Multimedia



Multimedia tab allows modifying multimedia capture and output devices used by the Language Lab, Speech and Camera, Screen and Camera Recorder tools.

## Advanced Options



**Disable loopback connections** - Enabled by default. Connections to itself (to the same computer, where the teacher module is installed) will be blocked. You need to enable this option if the teacher module is installed on a **terminal server**, and student sessions are running on the same terminal server.

**Save non-console session connections** – by default, the software stores connection information in the workspace (position, name, color groups) for connections that represent a real (console) session only, RDP sessions are always dynamic and are not stored. Enabling this option, you are making possible storing information for all sessions, real and terminal ones.

**Use Multicast for Search routines** – disable this option if your network does not support Multicast protocol.

**Enable administrative tools** – enables several tools that are intended for experienced users, and are hidden by default, including File Manager, system services control and several others.

**Save Workspace automatically** – when enabled, the teacher module will save the workspace automatically on closing the application.

**Apply a command to all connections when none selected** – if enabled, when none connection selected in the connections list, the operation will be applied to all computers.

**Disable DirectX acceleration** – enable this option if the teacher module shows a critical error message after opening some tools.

**Lock command: do not display warning message** – when enabled, and client computer was locked with the “Lock” command, Net Control 2 Client will not display a warning message or splash screen.

**Show connection statuses** – when enabled, the teacher module will display connection information (connected/disconnected) in the status bar at the bottom of the main window of the teacher console.

**Show the status bar** – enables or disables the status bar at the bottom of main window.

**Display notifications from student computers** – when enabled, the Console will display notifications from client computers when some operation was failed or requires additional attention.

**Run the teacher console at startup** – when enabled, the teacher module will be automatically opened after user logon.

**Show the selected connection toolbar** – when enabled, the teacher module will display a toolbar at the right side of a selected student connection for quick access to important commands (control, send message etc.)

**Log all sent commands** – enables logging of all commands sent to students, for security reasons. When enabled, the logs are stored in C:\ProgramData\Net Control 2, as log\_teacher\_commands.txt file for main commands, and log\_teacher\_protocommands.txt for low level commands intended for detailed investigation of commands applied.

### Settings scope:

**Individual settings and profiles for every user** – every user on this computer will have its own set of profiles and settings;

**Share the same settings for all users** – when enabled, all users will share the same settings and profiles;

**Common settings in the following folder** – defines a custom local or network folder, where the teacher console will store its settings, workspace and profiles.

**Custom UDP Broadcast subnetworks** – in this field you can specify a comma-separated list of broadcast IP addresses of your subnetworks/VLANs. The software uses UDP broadcast protocol for many features. In large networks, most often the UDP traffic is limited by the bounds of the network segment where the sender is located. Providing in this list broadcast addresses of other subnetworks, may enable the features that use this protocol for student computers in other subnetworks.

**Multicast address** – in this field, you can customize the Multicast address used by Net Control 2 services. The address should be the same for all student and teacher computers. The respective settings are provided in the student module on Advanced tab. Please change the address only if it interferes with other software installed on your computers.

**Use adapter** – allows limiting the network where the teacher module will be used by the bounds of the selected network adapter.

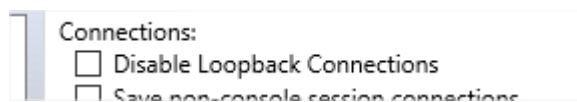
## K. Use in the Terminal Server (RDP) environment

Net Control 2 software can be used in the **Terminal Server** environment of **Windows Server**, where multiple users (teachers and students) share the resources of one physical computer, with user isolation provided through Windows logon sessions.

Each terminal session is considered in this case as a virtual computer and will be visible in the teacher console as a separate connection that may be controlled independently from other sessions of the same computer.

To use Net Control 2 software in the Terminal Server environment, you may need to adjust the default settings of the teacher and student modules and consider the platform-specific limitations described below:

1. **Only one teacher module** may be used within bounds of the same physical computer, that is, only one teacher module session can run at a time on a given server.
2. If the **teacher module** is installed on the server **together with student modules** and it should control student sessions running on the same server, you need to disable the **Disable Loopback Connections** option in the teacher module settings (**N – Options – Options**); on the **Advanced Options** page:



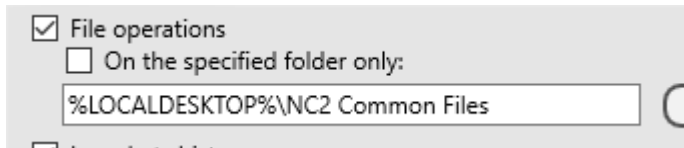
otherwise, student connections from the same machine will not appear in the connections list.

3. All copies of the **student module share the same settings**. Changing the student module settings in any student session changes them for all users on that computer. In particular, all students share the same group, administrator password, and security settings.

4. The **student module settings** include several options that you may need to configure in the terminal server environment. To access the student module settings, please click **Net Control 2 icon** in the System Tray area, then click the **Configure** button.

Please consider modifying the following settings:

4.1 *File operations* folder: on the **Security** tab, the field below the **On the specified folder only** option:



**we recommend setting up it as**

**%LOCALDESKTOP%\NC2 Common Files**

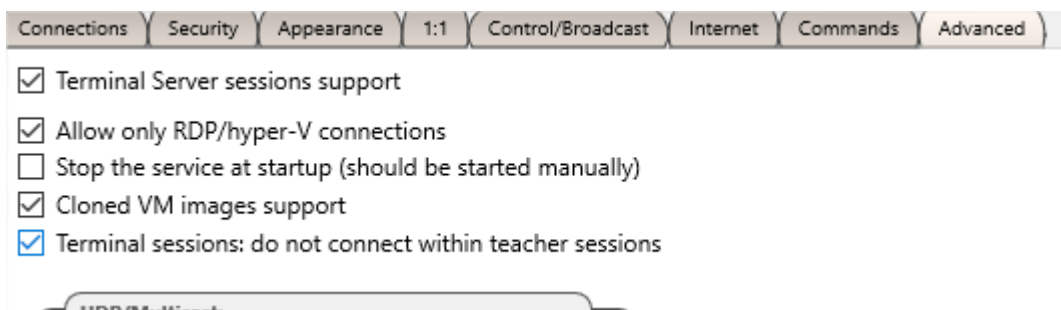
In this case **Net Control 2 Common Files** folder (NC2 Common Files) that is used by *Send/Collect*, *AutoCollect* tools and other file operations, will be placed separately on each user's Desktop. The default settings place it on the Public Desktop that is shared by all users and therefore file operations of sending and collecting files from individual users may not work properly.

4.3 On the **Advanced Options** page:

**Terminal Server sessions support** – the option should be enabled in the Terminal Server environment.

**Allow only RDP/hyper-V connections** – enable this option to allow only RDP/Terminal Client sessions; otherwise, the console session (usually the logon screen session) will also be displayed in the connections list.

**Terminal sessions: do not connect within teacher sessions** – enable this option to prevent the teacher session from appearing in the connections list along with student sessions.



5. Broadcast Desktop engine (**N – Options – Options; Control/Broadcast** page of the teacher module settings) supports the following protocols only: **Direct Broadcast** (recommended), **Multicast**, **UDP Broadcast**.

6. Abandoned user sessions (disconnected but not logged out) may appear in the connections list as **black screens**, to remove the abandoned sessions, select them and

apply the **Log off** command of the **Shutdown** tool.

7. The **Remote Login** tool can work in the console session only and does not work with terminal sessions; **shutdown** operations are applied to the server computer and all user sessions.

8. Due to hardware resources, including the microphone, speakers and camera are shared by all sessions, most likely **Speech and Camera** tools will be unavailable in your terminal server environment.

9. If terminal server students connect only to a teacher module running on the same computer, you can use the loopback IP address to address the teacher module:

127.0.0.1

10. The Net Control 2 licensing model considers each user session as a separate virtual machine. When using the software in a Terminal Server environment, please ensure your license covers all user and teacher sessions connected to the server.

## L. Installation of student components using Active Directory Group Policy Objects (GPO) and MSI packages.

### **Requirements**

Windows Server 2008, 2012, 2016 or 2019, 2022 with Active Directory services installed, enabled; administrative privileges.

### **MSI Packages**

Special MSI package for the student module installation through Active Directory GPO and software installation services, is available free of charge to registered customers upon request. This package is intended for the installation of the student module only, in default configuration and without any additional modification or configuration. Custom settings may be passed to the client module separately, using administrative templates for GPO, please see [Chapter M](#) of this manual.

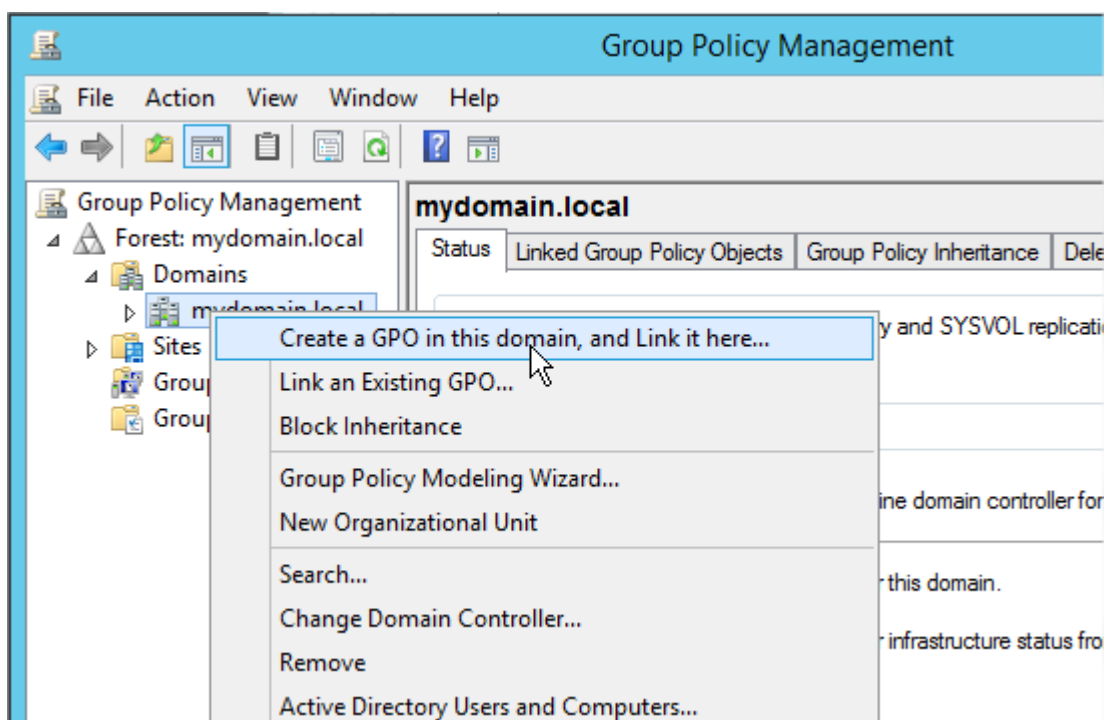
Alternatively, a special MSI Builder utility is available for registered customers. This utility is intended for compiling custom MSI packages with some pre-defined settings. MSI Builder generates unsigned MSI packages.

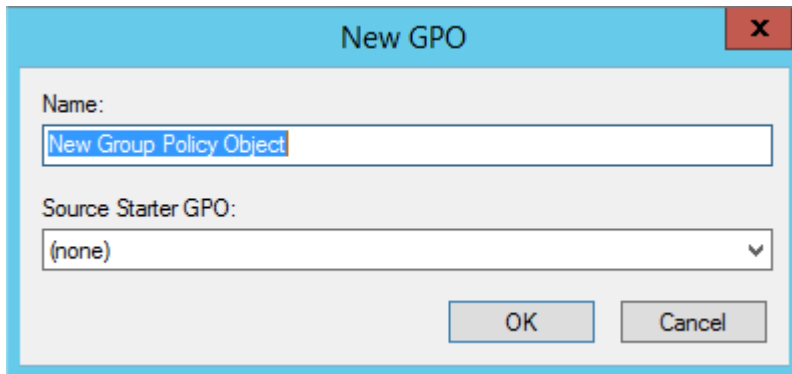
To request the package or MSI Builder utility, please contact us at

<http://ask.netcontrol2.com> ,

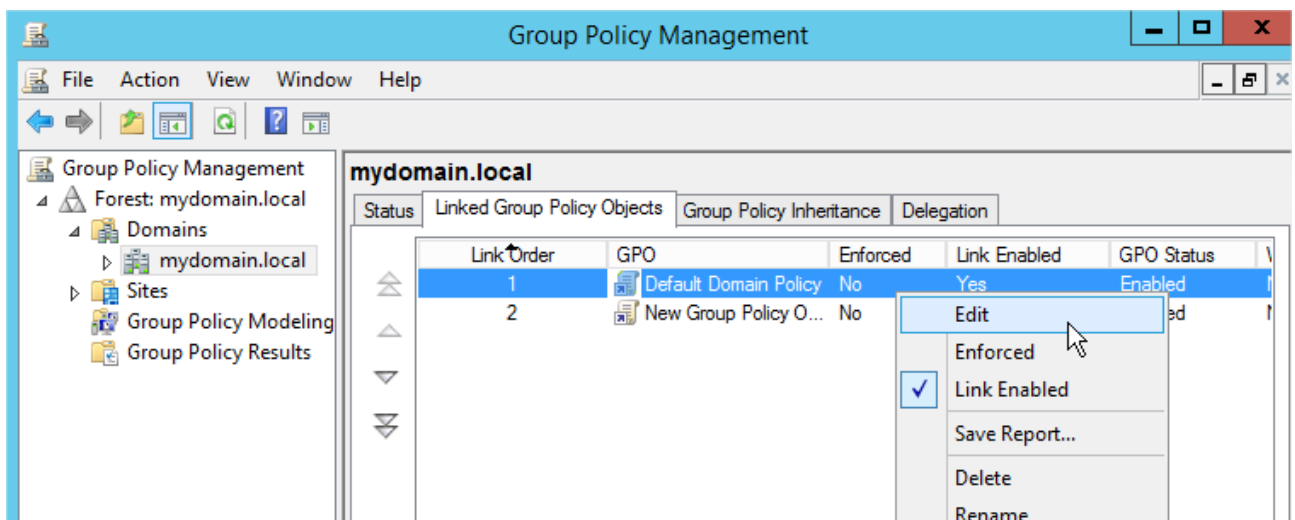
To install either the standard or custom MSI package:

1. Copy the MSI package to a shared folder on your network.
2. Log in to the Domain Controller with administrative privileges.
3. Open **Active Directory Users and Computers** applet.  
(For Windows Server 2012, click **Start -> Administrative Tools -> Group Policy Management**.)
4. On the left pane, browse and select a domain where you wish to deploy the package. Right click and select **Create a GPO in this domain:**

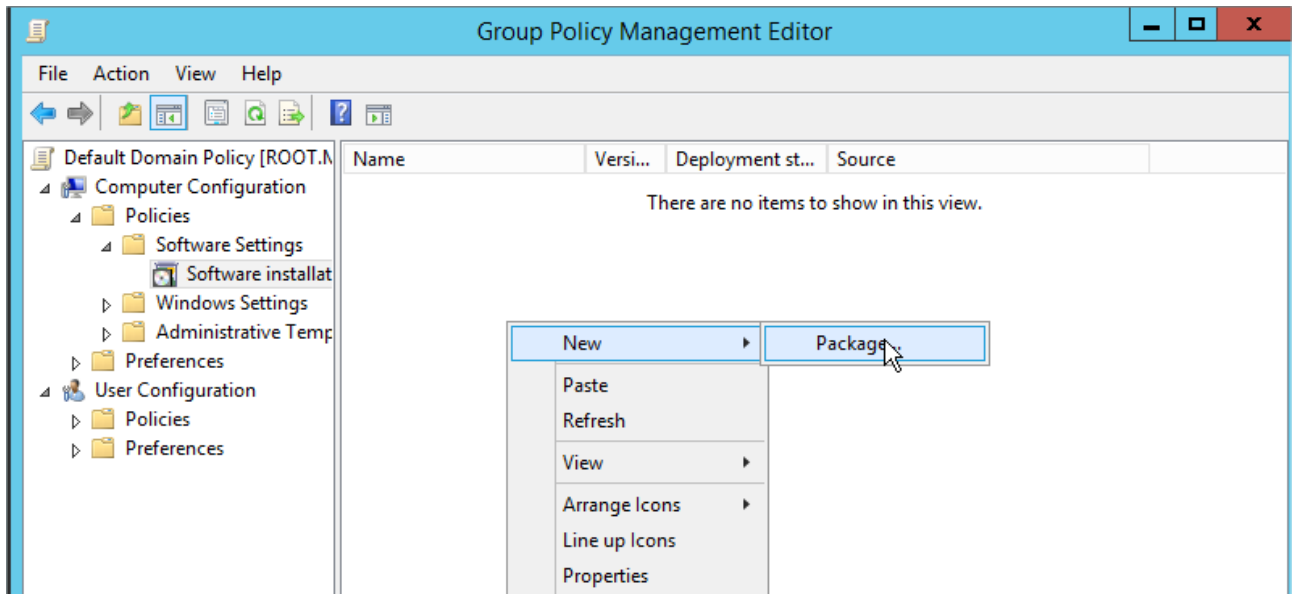




Or edit a default group policy object for the domain. Group Policies you can find on **Linked Group Policy Objects** tab:

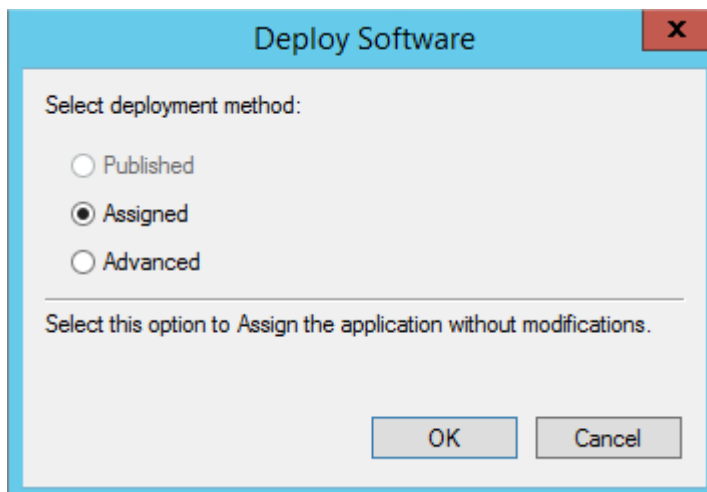


- In the **Group Policy Management Editor**, expand the left tree: **Computer Configuration -> Software Settings -> Software Installation**. Right click within right pane area, and click menu command **New -> Package** from the context menu.



6. Browse for a network path to Net Control 2 Server MSI package, choose **"Assigned"** and click **OK**.

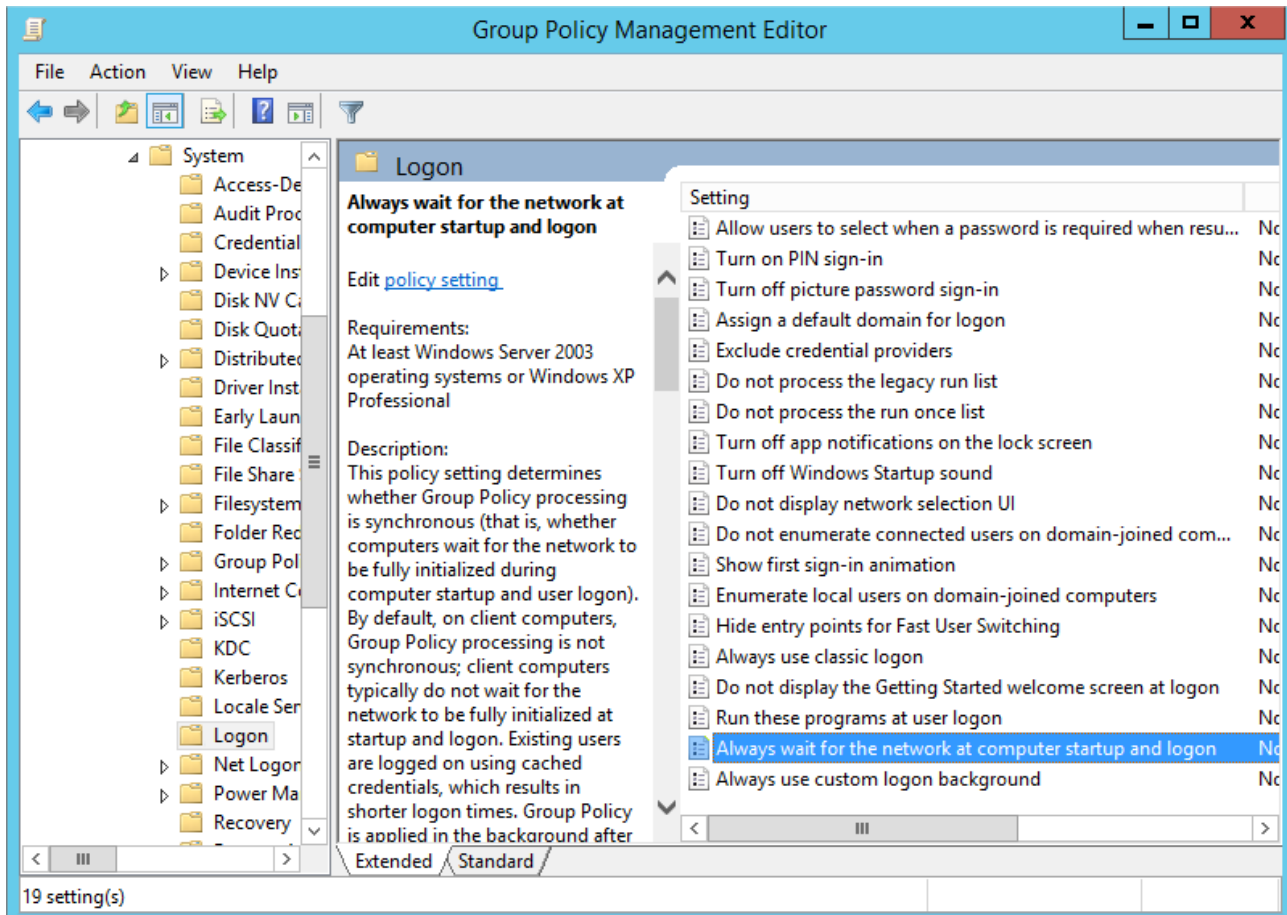
**Please note!** You need to specify a network path to the package exactly, in a network format `\\SERVER\SHARED_RESOURCE_NAME\PATH\ns.msi`. This path must be valid and accessible from all computers where the software will be installed. MSI package installation most commonly fails because of an incorrect path.

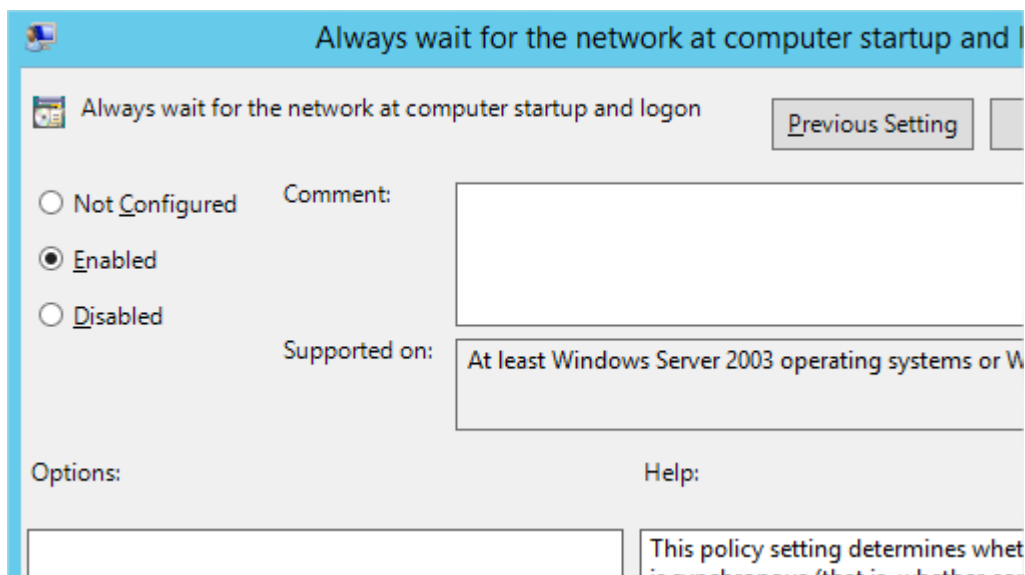


7. The procedure of software installation through Active Directory GPOs requires availability of the package that is being installed, at the moment of GPO installation on student computers. This means that **"Always wait for the network at computer"**

**startup and logon”** policy must be enabled.

You can enable this policy in the same Group Policy Object. Open **Computer Configuration ->Administrative Templates ->System ->Logon ->Always wait for the network at computer startup and logon** policy; enable it.





8. Close **Group Policies** and restart user computers.

Net Control 2 will be installed automatically when a computer applies domain settings at Windows startup and logon.

To remove Net Control 2 from user computers, remove the Net Control 2 package from the Software Installation list as described in step 5 of this chapter.

To update Net Control 2 on user computers, remove the existing package from the Software Installation list as described in step 5 of this chapter and add the new package.

### **MSI Builder**

Alternatively, a special MSI Builder utility is available for registered customers. This utility is intended for compiling custom MSI packages with some pre-defined settings. MSI Builder generates unsigned MSI packages.

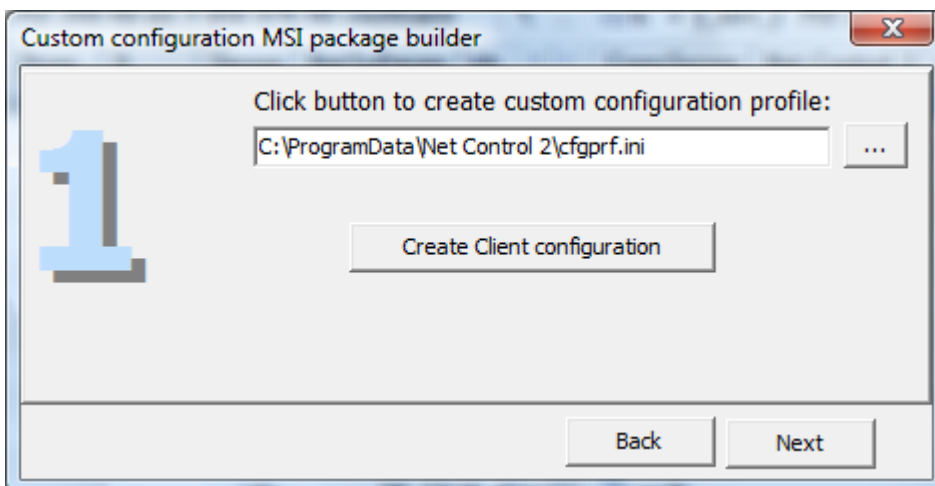
To request the package or MSI Builder utility, please contact us at <http://ask.netcontrol2.com>

MSI Builder program requires **Microsoft .NET Framework version 2.0** installed. .NET Framework version 2 is part of Windows 7 operating system and you should be able to compile MSI packages in this operating system without additional configuration.

For Windows 8/10 you need to enable .NET Framework version 3.5 component in Windows settings (Control Panel –Programs and Features – Turn Windows Features On or Off – enable .NET Framework version 3.5).

For Windows XP you need to download and install .NET Framework version 2.0 from Microsoft website.

Run MSI Builder from **Start -> All Programs -> Net Control 2 PRO -> MSI -> MSI Builder** menu.



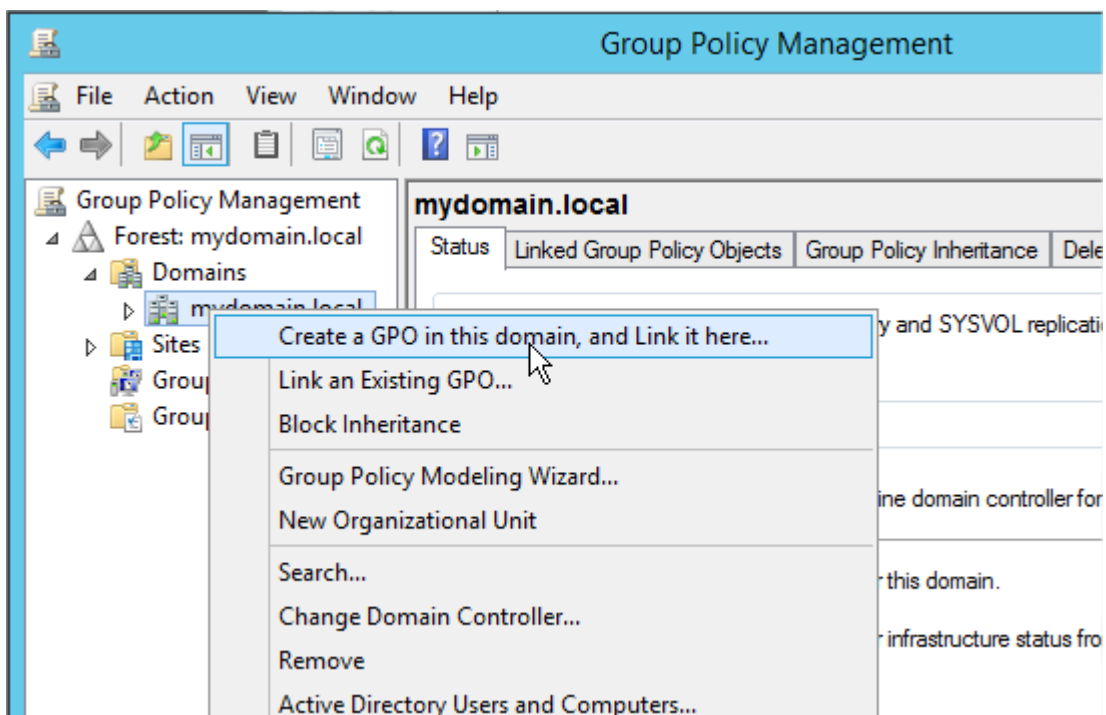
Click **Create Client configuration** button to create the default configuration.

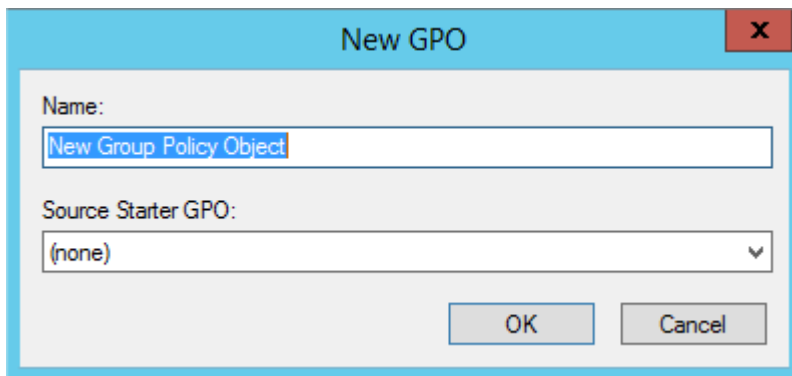
Set up default settings for Net Control 2 Client. On next page, MSI Builder will compile your custom MSI package for deployment.

## Deployment

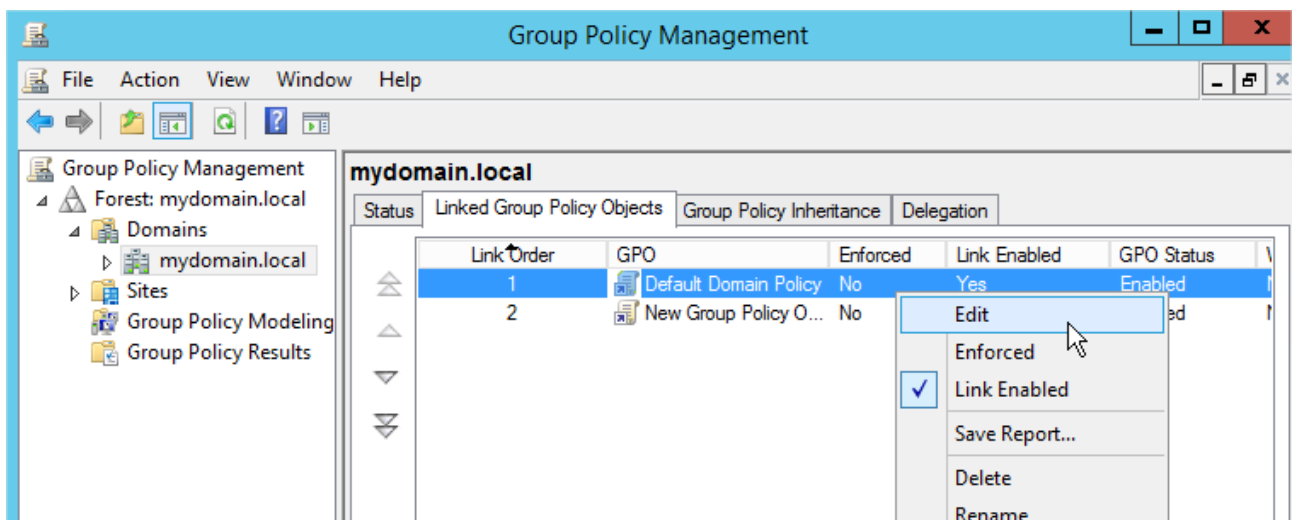
To install either the standard or custom MSI package:

2. Copy the MSI package to a shared folder on your network.
9. Log in to the Domain Controller with administrative privileges.
10. Open **Active Directory Users and Computers** applet.  
(For Windows Server 2012, click **Start -> Administrative Tools -> Group Policy Management**.)
11. On the left pane, browse and select a domain where you wish to deploy the package. Right click and select **Create a GPO in this domain:**

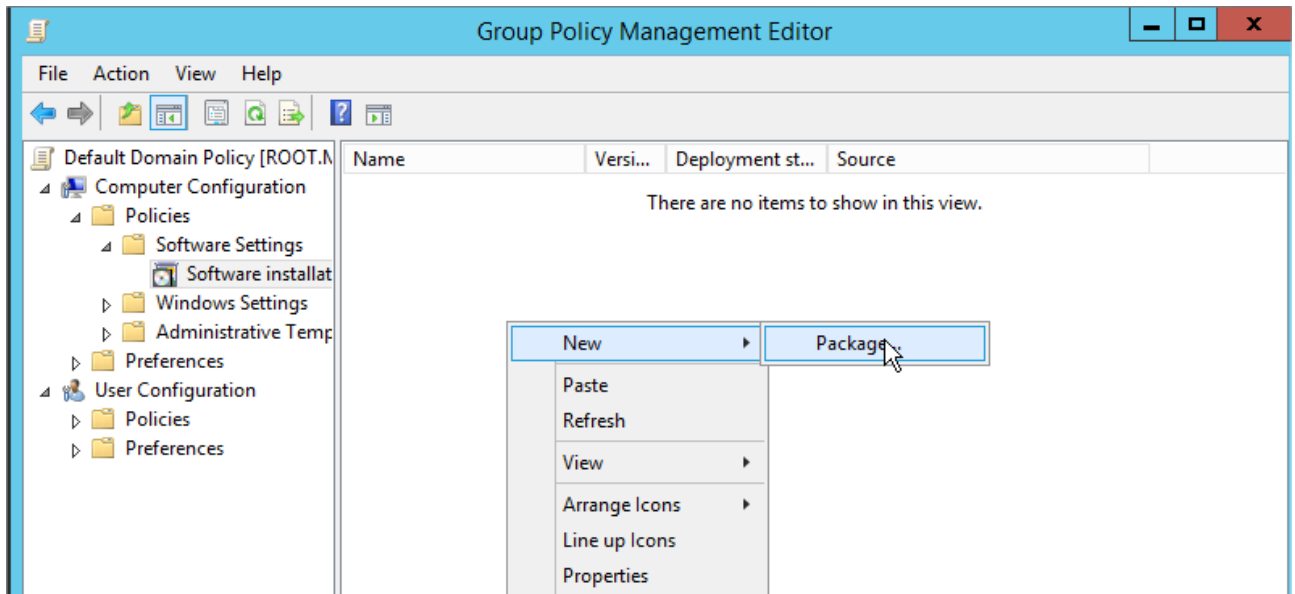




Or edit a default group policy object for the domain. Group Policies you can find on **Linked Group Policy Objects** tab:

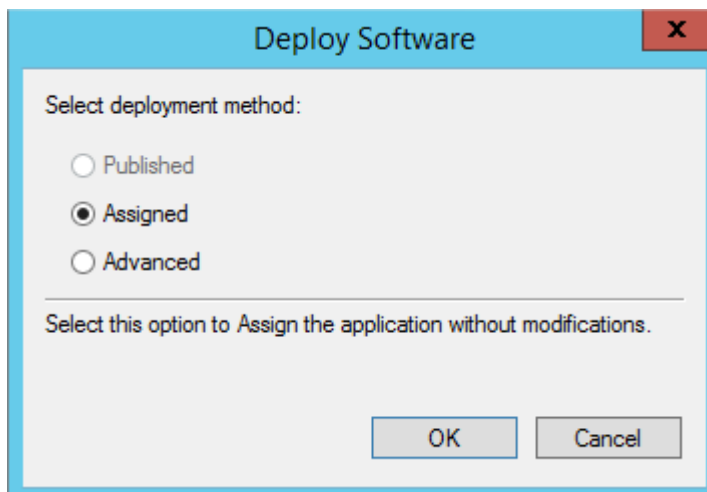


- In the **Group Policy Management Editor**, expand the left tree: **Computer Configuration -> Software Settings -> Software Installation**. Right click within right pane area, and click menu command **New -> Package** from the context menu.



13. Browse for a network path to Net Control 2 Server MSI package, choose "**Assigned**" and click **OK**.

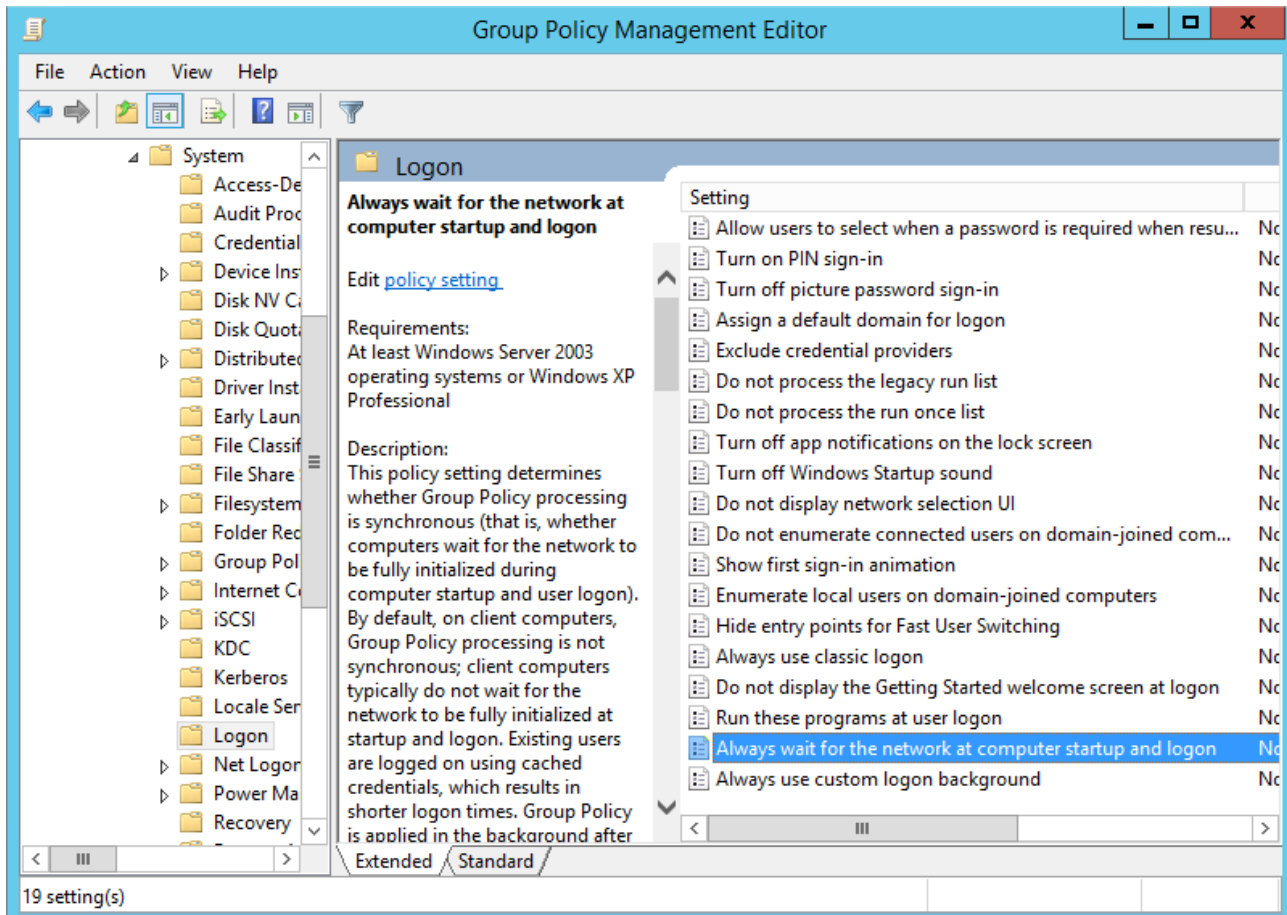
**Please note!** You need to specify a network path to the package exactly, in a network format `\\SERVER\SHARED_RESOURCE_NAME\PATH\ns.msi`. This path must be valid and accessible from all computers where the software will be installed. MSI package installation most commonly fails because of an incorrect path.

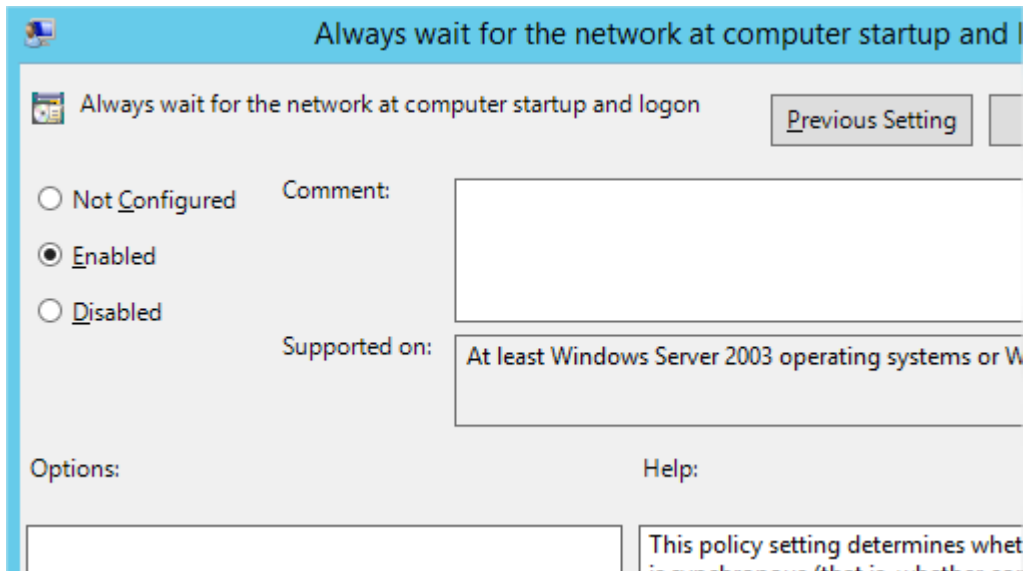


14. The procedure of software installation through Active Directory GPOs requires availability of the package that is being installed, at the moment of GPO installation on student computers. This means that "**Always wait for the network at computer**

**startup and logon”** policy must be enabled.

You can enable this policy in the same Group Policy Object. Open **Computer Configuration ->Administrative Templates ->System ->Logon ->Always wait for the network at computer startup and logon** policy; enable it.





15. Close **Group Policies** and restart user computers.

Net Control 2 will be installed automatically when a computer applies domain settings at Windows startup and logon.

To remove Net Control 2 from user computers, remove the Net Control 2 package from the Software Installation list as described in step 5 of this chapter.

To update Net Control 2 on user computers, remove the existing package from the Software Installation list as described in step 5 of this chapter and add the new package.

## M. Setting up the Net Control 2 Client and Teacher settings with Active Directory Administrative templates.

Several settings of Net Control 2 Client Module and Teacher module may be set up remotely using Active Directory Group Policies of Windows Server 2003-2016.

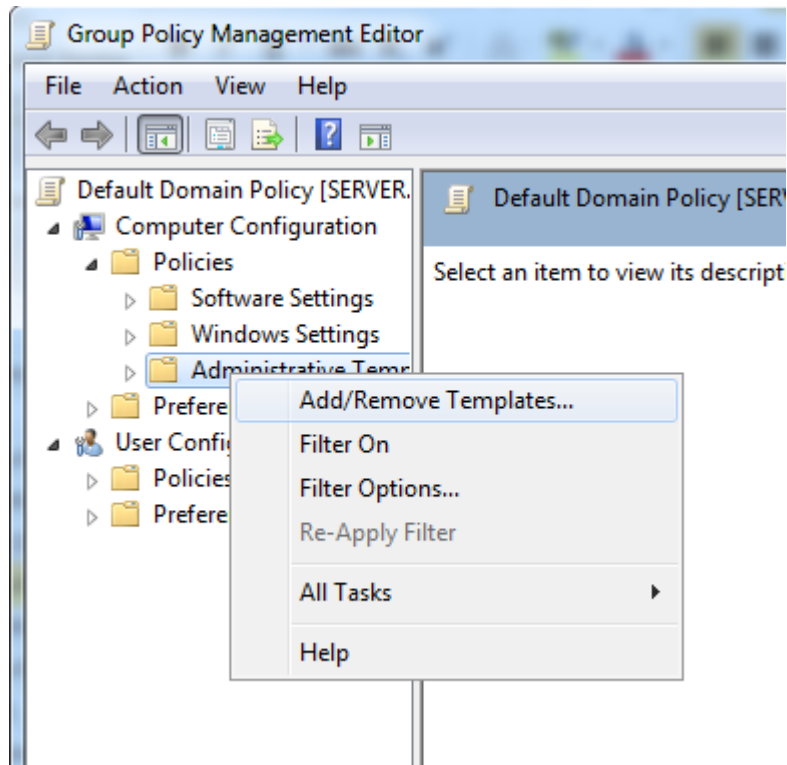
1. Download the administrative templates:

<http://www.netcontrol2.com/getfile?id=nc2client.adm>

and

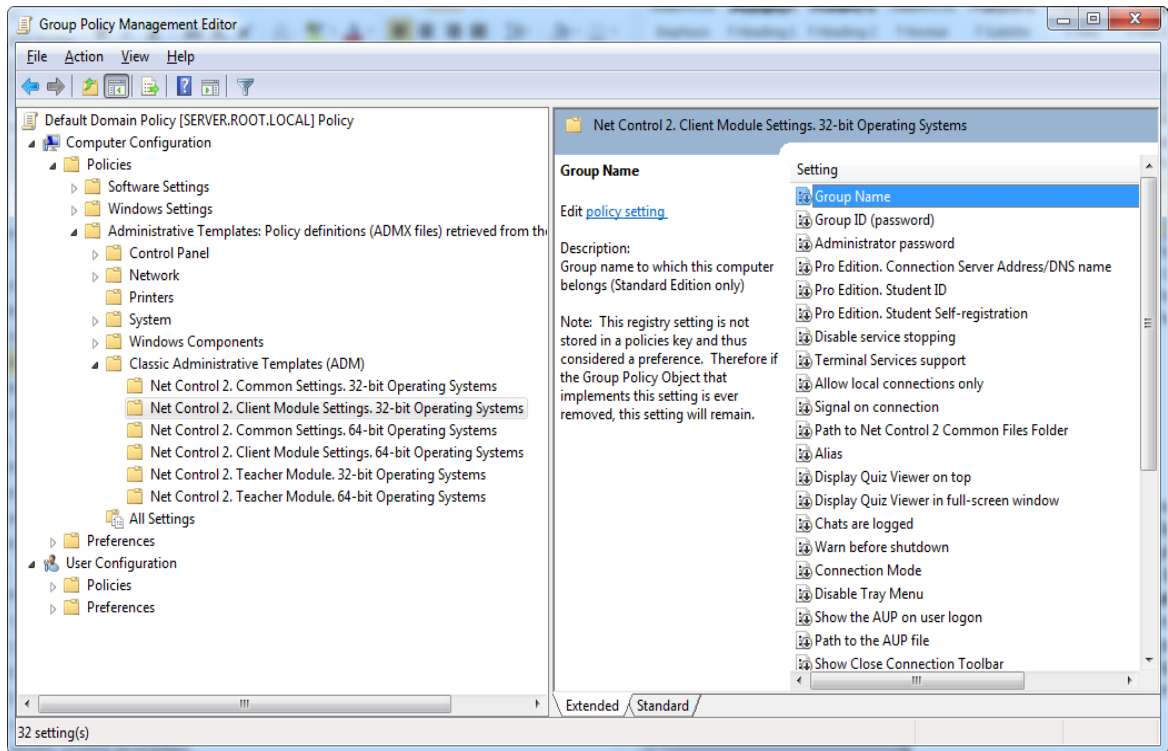
<http://www.netcontrol2.com/getfile?id=nc2teacher.adm>

2. Open the Group Policy Management console: for Windows 2008/2012 click Start -> Administrative Tools -> Group Policy Management.
3. Select a policy where the settings should be deployed. For example Default domain policy.
4. Right click it and select **Edit** menu command to open **Group Policy Management Editor**.
5. In the editor, at left pane open **Computer Configuration -> Policies -> Administrative Templates**.
6. Right click the **Administrative Templates** option and click **Add/Remove templates** menu command:



7. In **Add/Remove Templates** window click **Add** button to add Net Control 2 template files downloaded in p.1

8. When templates are imported you can change Net Control 2 settings in **Computer Configuration -> Policies -> Administrative Templates -> Classic Administrative Templates (ADM)** section. Settings in 32 and 64 bit operating systems are stored separately and therefore the administrative templates provide separate sections for 32 and 64 bit operating systems. If you have mixed computers with 32 and 64 bit operating systems, both sections should be configured.



## N. Script installation with standard installation package.

The standard executable installation package supports non-interactive centralized installation and deployment in large networks, Active Directory, and SCCM environments using installation scripts.

**Please note!** The installation script must have administrative elevated or system privileges in the system, otherwise the package cannot be installed. Particularly, for Active Directory scripts you need to use Computer Configuration section of AD GPO, but not User Configuration (which may not have the necessary privileges).

The package can be pre-configured during installation by passing special command-line parameters to the setup program:

**/SILENT** – a required for script installation option, runs the installer in a non-interactive mode, the setup program will display the progress of the installation on the screen but will not wait keyboard or mouse input from a user.

**/COMPONENTS="adm user comm drv lspm\ho"** - space-separated list of components, which should be installed. Possible values:

**adm** – Teacher Component

**user** – Student Component, install as service (default)

**comm**– Common components (required)

**drv**– Install NC2 Video Hook Driver (required for Remote Desktop, Broadcast Desktop and Desktop Recorder tools)

**lspm\lsp**– Install Internet Control Engine in Mode 1: as Internet Explorer plugin and with internal control of Internet Explorer. In this mode Net Control 2 can control only websites visited in Internet Explorer browser, and cannot control other browsers like Firefox, Chrome or Safari. This mode is recommended if you experience issues with the default Mode 2.

**lspm\ho** – Install Internet Control Engine in Mode 2: as protocol layer module and Internet Explorer addon (this mode is recommended).

**/NORESTART** – Do not restart computer automatically after installation

Optional parameters:

**/USERCONNECT:teacher1;teacher2;192.168.1.11;** - for the student module installation, sets up teacher computers that will be connected to this student, teacher1, teacher2, 192.168.1.11 – are network names and IP address of teacher computers. Names/addresses should be separated with a ";" sign.

**/BDCHANNEL:NN** – specifies Broadcast Desktop channel. Instead of NN please specify the number of Broadcast Desktop channel. When not specified, uses the default channel.

**/GROUPNAME:Name** – specifies Group Name for this computer. Used only if the software was not earlier installed on this computer.

**/GROUPEID:Password** – specifies Group ID (password) for this computer. Used only if the software was not earlier installed on this computer, valid for direct connections only.

**/ADMPASS:password** – set up administrator password for the student module.

**/ADV>ShowMiniToolbar=0** – disables Net Control 2 toolbar on student computers.

**/ADV:InverseScanEnabled=1** – enables finding the student computer from teacher computers

**/ADV:SearchPasswordOpen=password** – sets up Connection Password

**/ADV:ConnectByTeacherID=1** – for a student module, enables connecting teacher computers by Teacher ID

**Example 1.** To install the software, Student components only in default configuration, execute the following command line:

```
D:\Downloads\net2000r.exe /SILENT /COMPONENTS="user comm drv lspm\ho"  
/NORESTART
```

Example 2. To install Teacher components of the software only, execute the following command line:

```
D:\Downloads\net1200r.exe /SILENT /COMPONENTS="adm comm drv" /NORESTART
```

**D:\Downloads** should be replaced to the actual path to the installation package on a local computer.

## O. Student components installation using Net Deploy tool.

### Requirements:

- A network with domain;
- The user performing the remote installation must have administrator privileges on the target computer;
- The Administrative Shared Folder (Remote Admin, ADMIN\$) resource should not be disabled;
- Net Control 2 software is already installed on the Teacher computer;

### The Remote Admin resource.

Remote installation of Net Control 2 Classroom software with built-in NetDeploy tool is possible only if Administrative Share ("ADMIN\$") resource is enabled on computers of the network.

#### 1. How to check whether Administrative share is enabled on client computer

On a student computer open Command Prompt window (press Win+R on the keyboard and type cmd.exe)

in the Command Prompt window type:

**net share**

verify that the ADMIN\$ shared resource is in list of resources.

#### 2. How to enable Administrative share resource:

#### Windows 7-10:

Add the following setting to the system registry of every client computer:

**Key:**

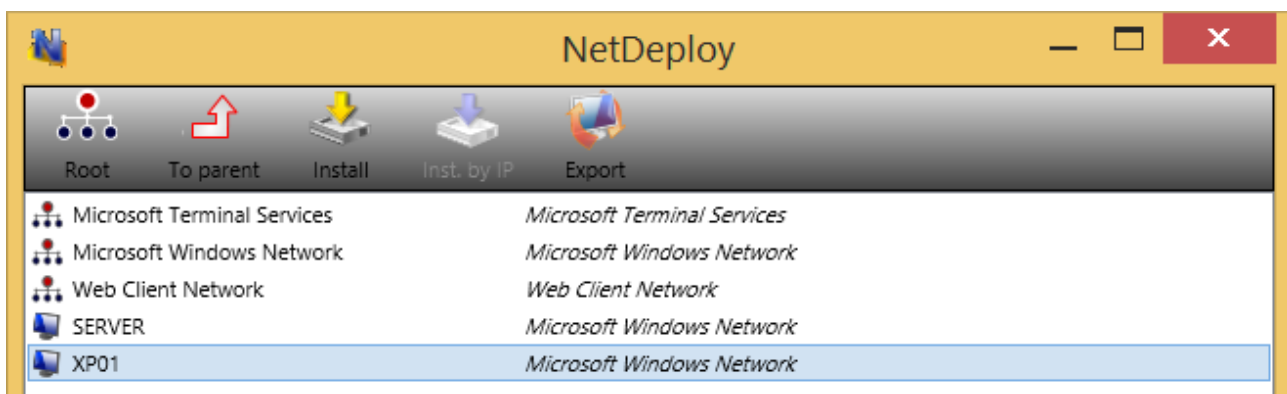
HKEY\_LOCAL\_MACHINE\Software\Microsoft\Windows\CurrentVersion\Policies\System

**Value:** LocalAccountTokenFilterPolicy :**DWORD** = 1

To apply changes after altering this setting you need to restart the client computer.

### To install the software:

1. Run the teacher module of Net Control 2 Classroom;
2. Click on Top toolbar's command **Net Deploy (Advanced Tools** tab);
3. In **Network Neighborhood**, find and select computers where the software should be installed;



4. Click **Install** ("**Install Net Control 2 on Selected Computers**") button on the top toolbar;
5. Specify local path to *Net Control 2 Setup installation package*;
6. Specify components of the software that should be installed;
7. Specify Advanced options when necessary;



7. Click the **OK** button.

The program will try to connect to the remote computer and install the software. If the login name and password of the remote computer's administrator differs from the name and password of currently logged in user, Net Control 2 will prompt to enter the correct login name and password on the remote computer.

This installation method will fail if:

- Your network does not have a domain
- You do not have local administrative privileges on the remote computer
- The administrator login name or password is incorrect

## **P. Update.**

### ***Manual update through the teacher module***

To update the teacher module of the software to a higher version, most often it is enough to close the teacher module, download the latest installation package from our website (please verify that you are downloading the same edition of the software), and install it

over existing package without removal of the previous version.

To update the student module remotely from the teacher console:

- download the latest installation package or use the package that you have used for installation of the teacher module;
- in the teacher console of Net Control 2 Classroom, select student computers that should be updated;
- click the main menu command **N ->Help and Support ->Update Client**
- specify a path to *Net Control 2 installation package* on your computer.

The package will be uploaded to the student computers and installed there.

### ***Automatic update***

The Automatic Update feature provides a simple way to update the software on teacher and student computers.

Please note: Automatic update does not cover all versions – it is reserved for critical updates only. Newer versions may be available on our website and can be installed using the manual update methods described above.

Automatic update must be enabled in the teacher module settings: **N ->Options ->Options, on Update page, Download Updates Automatically** option should be enabled.

The software checks the Net Control 2 update server every 14 days. If an update is found, it is downloaded to the teacher computer and deployed to student computers the next time they connect.

**Please note:** To change the Update options, the program should be started with administrative privileges in the system. For Windows 7-10, you need to run the program as follows:

- right-click on the Net Control 2 Classroom icon on Desktop or in Start ->Programs menu
- click menu command **Run As Administrator**
- confirm execution

## MSI Packages

If the software was installed through **Active Directory Group Policies** and a MSI package, to update the software on student computers, remove the older package from the Group Policies Object, and install the new package. Please see [chapter L](#) of this manual.

## Q. How to disable Groups tab of the teacher console

In some cases, it may be necessary to lock a teacher to a default group and prevent access to other groups. To restrict access to the Groups tab and its functions:

- Select the default group the teacher will have access to;
- Click the main menu command N -> Options -> Options;
- On Interface tab, click the Lock Current Group button;
- Specify some password, which will be used for unlocking the Groups tab;
- Click OK.

To unlock the Groups tab, click the Unlock Current Group button on the Interface tab of the Options.

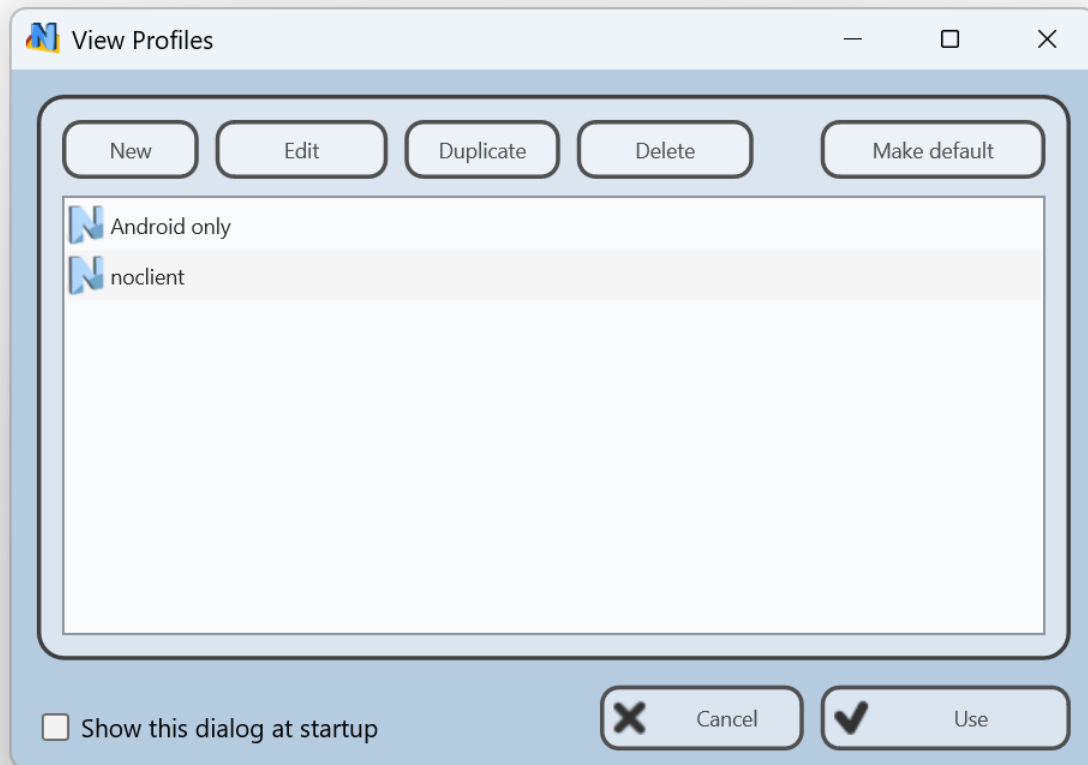
## R. How to forbid access to some teacher module features

Net Control 2 Teacher Module can be configured to show or hide specific features for different groups of users. For example, ordinary teachers may use only a subset of features, while IT administrators have access to the full range.

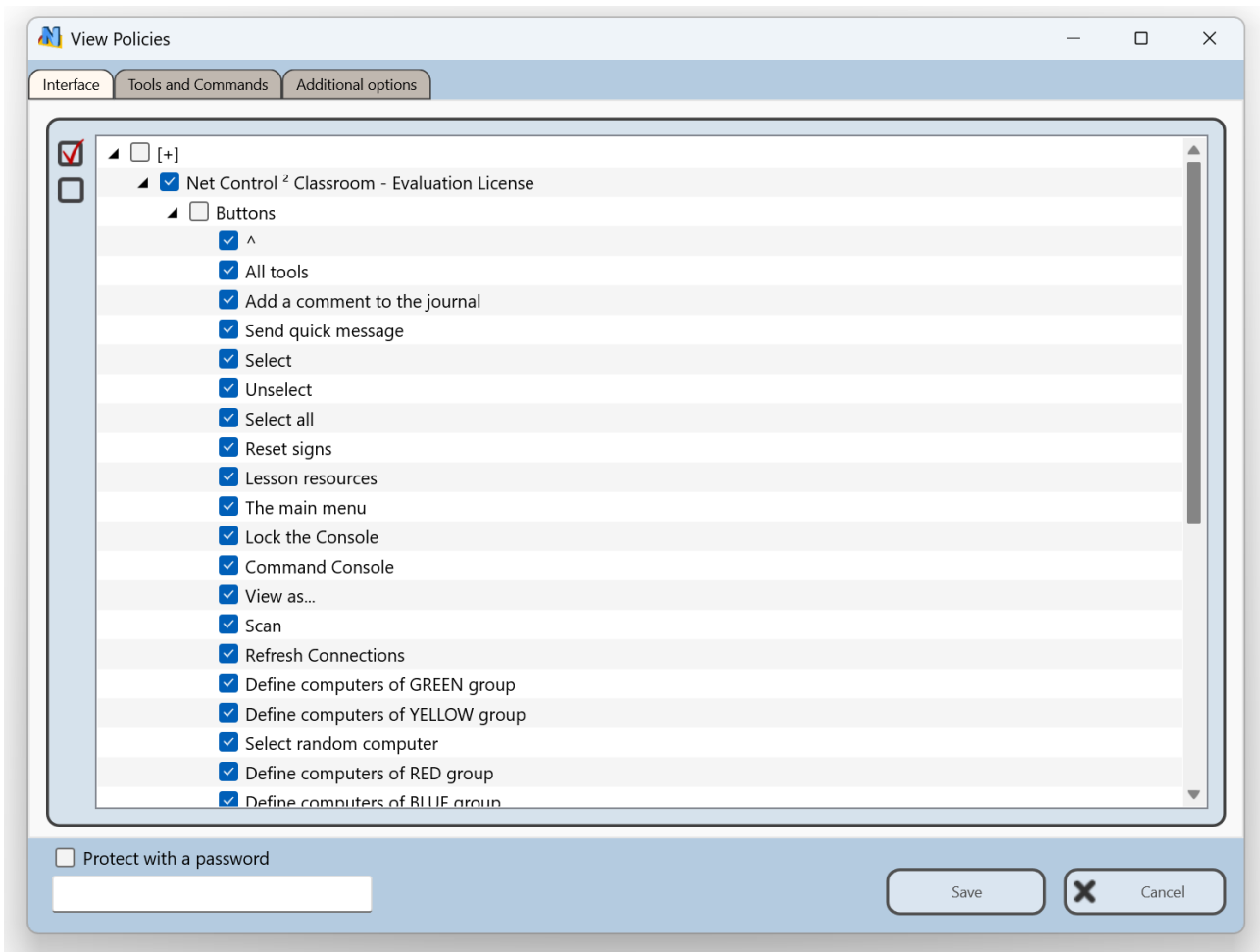
This is realized through the **View Profiles** tool. The Administrator may create several view profiles, protect some profiles with a password or mark some profiles as **"default"**, i.e. make them active automatically at startup.

1. To create a custom View profile:

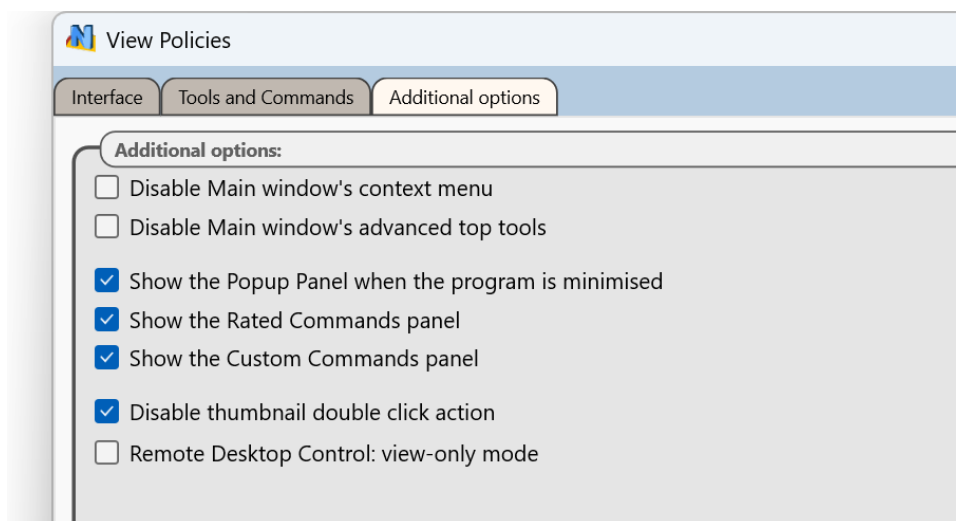
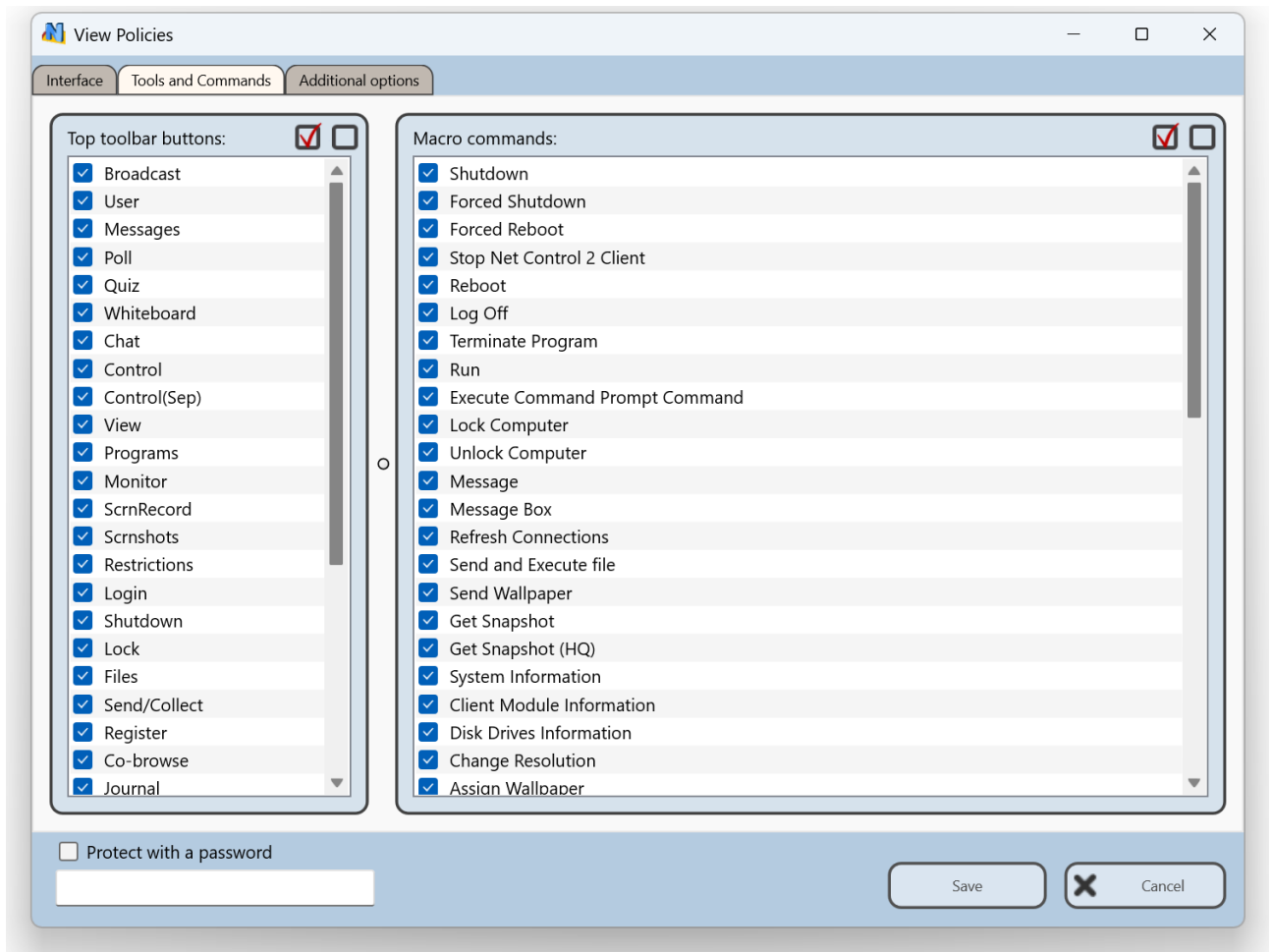
- click menu command **N ->Options ->View Profiles**.



- Click the **New** button.
- On the **Policies** tab, check only those window elements (*buttons, fields, menus*), which should be visible (available for user) in the new configuration:

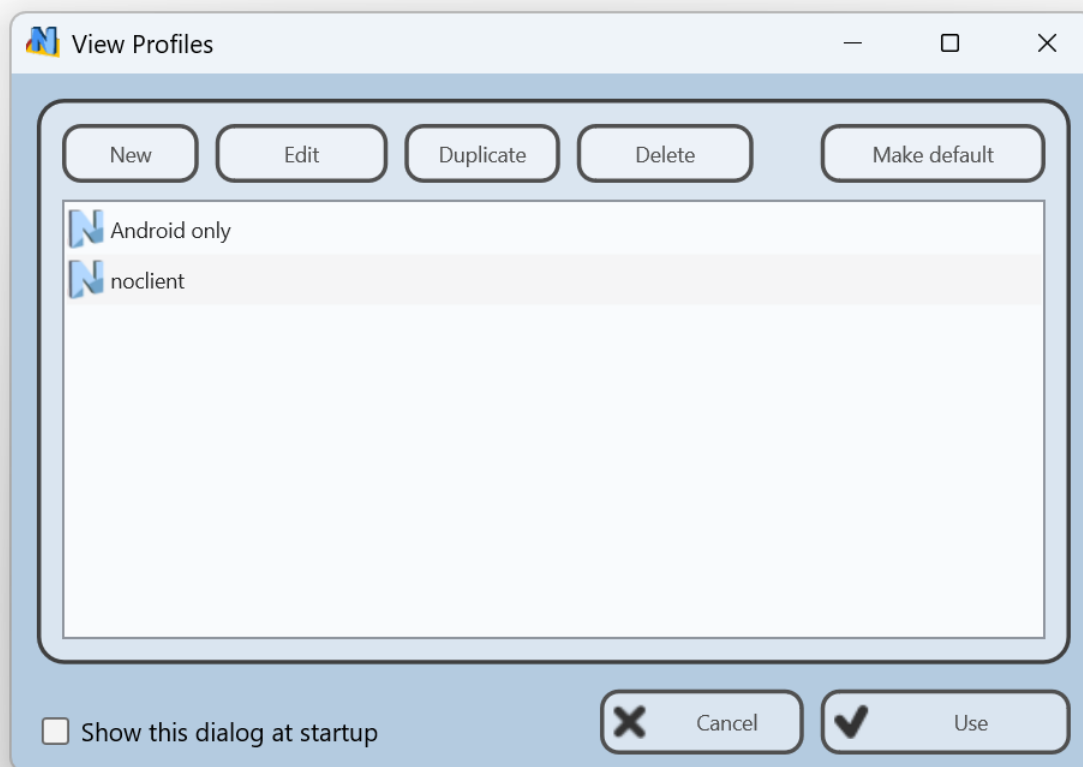


- on the **Tools and Commands** tab you can set up what commands and macro commands will be available for teachers:



- when a new profile is created, click the **Save** button to save the profile
- specify some name for profile

- created profile should appear in the list



In addition, you can make any profile **“Default”**. In this case, the profile will be loaded and applied automatically at start up of Teacher Module.

If the **Show this dialog at startup** option is enabled, Net Control 2 Teacher will display profiles list at startup, allowing the user to select one of the available profiles.

If a password was specified for the profile, Net Control 2 Teacher will prompt for it before applying the selected profile.

## S. How to protect access to Net Control 2 Classroom with a password

To protect access to Net Control 2 Teacher, click the menu command **N ->Options ->Interface -> Lock password**, specify the password, and click **OK**.

To prevent unauthorized stopping or configuration of the Net Control 2 Student service on a student computer, enable the Administrator password:

- click **N** (Net Control 2) icon in the **System Tray**, then click **Configure** button. In the **Configuration** window, on **Security** tab, in **Administrator Password** field, specify

new password.

**Please note:** The password will be applied and stored only in the registered version of the software. Particularly, this feature is not available in Public Trial version.

## T. Securing Connections with Transport Protocol Settings

**Note:** Transport protocol security settings are available only in certain regions and may not be present in all editions of Net Control 2. The information in this chapter applies only to the regional versions and editions where these settings are available and appear in the settings window.

**Security Disclaimer:** The transport encryption features in Net Control<sup>2</sup> are implemented using established third-party libraries and widely recognized protocols and algorithms. The encryption layer is provided solely for the purpose of securing internal data transport within classroom network environments. Net Control<sup>2</sup> is general-purpose classroom management software. **It is not a security product, and must not be treated as one.** We make no representations that its security implementation meets any country-specific regulatory requirements, certified security standards, or formal compliance classifications. Nothing in this documentation should be interpreted as indicating that this software is suitable for use as a dedicated data protection tool, or for deployment on critical infrastructure or in environments requiring certified or elevated security levels. **This software is not designed, tested, certified, or intended for use as a security or data protection tool, for securing sensitive or classified information, or for deployment on critical infrastructure or high-security environments. It must not be used for any such purpose.**

Net Control 2 allows you to configure how data is transferred over the local network between teacher and student computers. Three security modes are available:

**Plain (insecure)** — the fastest option, suitable for most environments. All data is transmitted without encryption. Recommended where network interception is not a concern, for example in isolated classroom networks.

**Secure connections** — enables transparent encryption of all data transferred between teachers and students. Any data intercepted in transit is unreadable to a third party.

**Verified connections** — in addition to encryption, requires that both senders and recipients are authenticated. Only clients with recognized public keys can send and receive data.

The software supports two independent layers of transport security:

**Teacher** ↔ **Student connections** — applies to all editions.

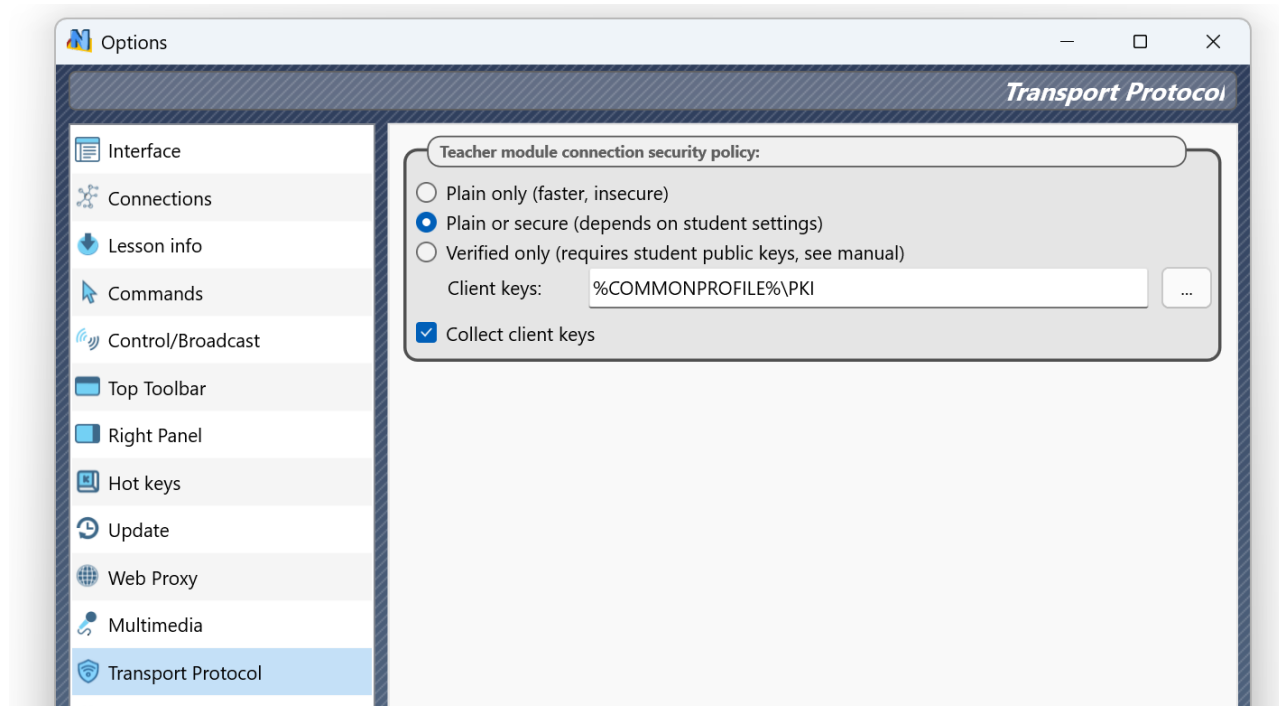
**Client** ↔ **Connection Server connections** — available in the Professional Edition only, configured in the Connection Server Management Console.

## Teacher and Student Connection Security

For teacher–student connections, the effective security mode is determined by the student module settings. Each side is configured independently, and the settings must be compatible — if they do not match, the connection will fail.

## Teacher Module Settings

In the Teacher module, open **Options** → **Options** → **Transport Protocol**. Select one of the following options:



**Plain only (faster, insecure)** — the teacher module accepts only unencrypted connections. This is the default mode and is suitable for most use cases.

**Plain or secure (depends on student settings)** — the teacher module accepts both plain and secure connections; the actual mode used depends on what the student module requests.

**Verified only (requires student public keys, see manual)** — the teacher module accepts only verified, authenticated connections. Public keys of all connecting students must be available.

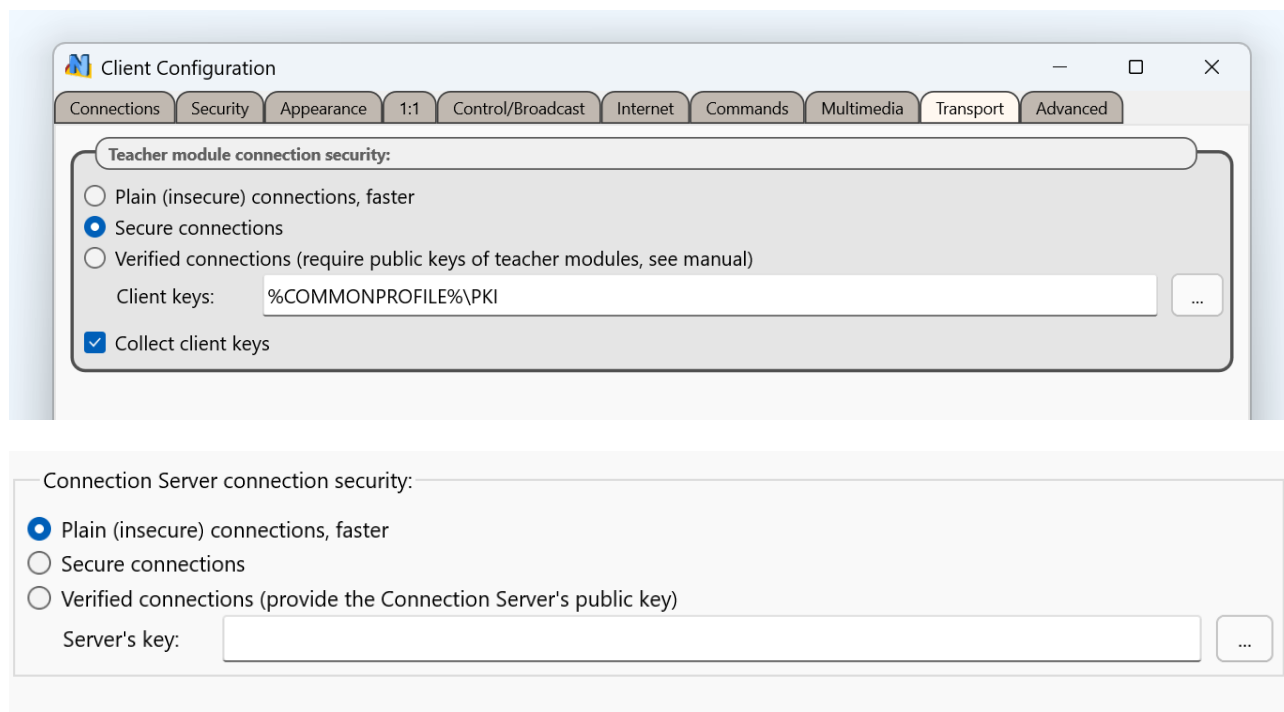
## Student Module Settings

In the Student module (Client Configuration window), open the **Transport** tab. Under **Teacher module connection security**, select one of the following:

**Plain (insecure) connections, faster** — the student connects using unencrypted plain connections. The default mode.

**Secure connections** — the student always uses encrypted connections.

**Verified connections (require public keys of teacher modules, see manual)** — the student uses verified, authenticated connections. Public keys of all teacher modules must be available.



Important: if the teacher and student modes are incompatible (for example, the teacher is configured to accept plain connections only while the student is set to use secure connections), the connection between them will fail.

## Verified Connections and Public Key Management

Verified connections require that each client (teacher or student) holds the public key of the remote party. If a public key is missing on either side, the connection cannot be established.

**Collecting keys automatically.** To simplify initial setup, enable the **Collect client keys** option in the Transport Protocol settings (available when Secure connections mode is active). When this option is enabled, the module automatically collects and stores the public keys of all clients it connects to. This is the recommended approach to build up a key database before switching to Verified connections mode.

**Copying keys manually.** Public keys are stored by default in C:\ProgramData\Net Control 2\PKI. This folder contains:

“**Own**” subfolder — contains the public key of the current computer.

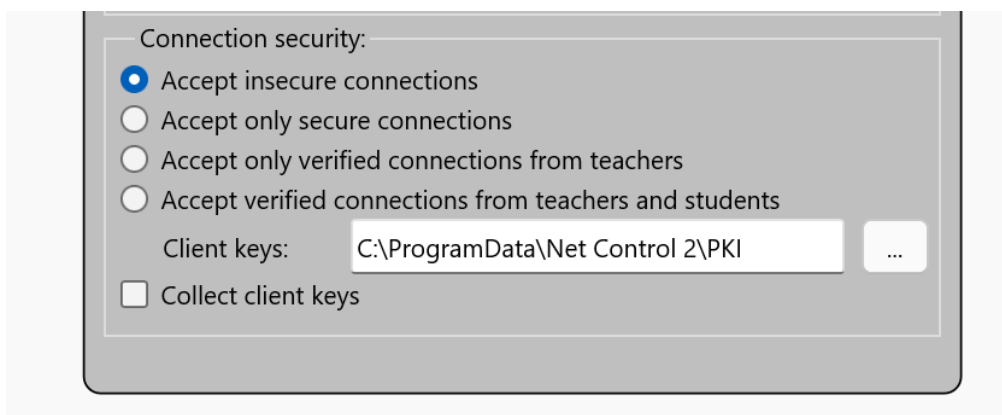
“**students**” file — contains the allowed public keys of student modules (one key per line).

“**teachers**” file — contains the allowed public keys of teacher modules (one key per line).

You can manually copy or distribute these key files across computers if automatic collection is not practical in your environment.

### Connection Server Security Settings (Professional Edition)

In the Professional Edition, transport security can also be configured for connections between clients (teachers and students) and the Connection Server. These settings are available in the Connection Server Management Console, on the **Options** tab.



The following security policies are available for the **Connection Server**:

**Accept insecure connections** — the server accepts both secure and insecure client connections.

**Accept only secure connections** — only encrypted connections from clients are allowed.

**Accept only verified connections from teachers** — student connections may be plain or secure, but teacher connections must be verified. The server must hold the public key of each connecting teacher.

**Accept only verified connections from teachers and students** — both teachers and students must be verified. The server must hold the public keys of all authorized clients.

The **Collect client keys** option is also available in the Connection Server settings and works in the same way: when enabled, the server automatically collects public keys from connecting clients.

The folder where client keys are stored can be customized in the Connection Server settings. The default path follows the same convention as the teacher and student modules: C:\ProgramData\Net Control 2\PKI.