



# **Impero Education Pro**

## **Installation Guide**

EXTERNAL



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## Introduction

This guide takes you through the process of installing and registering the Impero Server and deploying the Impero clients. You can also find details of steps to help you get started with using Impero Education Pro, as well as some advanced troubleshooting topics to answer common questions.

## Minimum System Requirements

Before proceeding with your installation of Impero Education Pro, please make sure that you meet the minimum system requirements for the Impero Server, and clients as specified below.

The specific system requirements for running Impero Education Pro v7+ on different operating systems are described below. Please make sure that your system meets these requirements and that your operating system is up to date before downloading the latest version of Education Pro.

Features and improvements found in the latest version of Education Pro may not operate as designed in a scenario where your environment does not meet the minimum requirements. Actual requirements may also vary based on your system configuration along with the applications and the features you install.

Impero recommends that end users do not exceed a maximum of 5000 concurrently connected devices per Impero Education Pro Server installation.

Due to the nature of keyword detection configurations the disk requirements for Impero Education Pro can vary from site to site, where storage is at a premium or capacity is a concern, customers are advised to contact our



support team using support@imperosoftware.com or calling 01509 611 341 UK / 877-883-4370 USA for further advice.

### Impero Server

- Microsoft Windows 7, 8, 8.1, 10, 11 (x86 and x64)
- Microsoft Windows Server 2008 R2/2012/2012 R2/2016/2019 (x86 and x64)
- Microsoft .NET Framework 3.5 (version 5003)
- Microsoft .NET Framework 4.5 (version 5105+)
- Microsoft .NET Framework 4.62 (version 6.0.42+)
- Approximately 150 MB SSD/HDD for installation
- 60 GB SSD/HDD free space (actual space requirement depends on your retention policy) \*
- TCP/IP connection
- Internet connection required for Impero Server
- Impero recommends the server is not installed on a

### Domain Controller

Up to 1500 clients	clients	Up to 3000 clients	Up	to	5000
--------------------	---------	--------------------	----	----	------

- |               |             |             |
|---------------|-------------|-------------|
| • 2.0 GHz + • | 2.0 GHz + • | 2.0 GHz + • |
| Dual Core     | Quad Core   | Octa Core   |
| processor     | processor   | processor   |
| • 4 GB RAM    | • 8 GB RAM  | • 8 GB RAM  |

### Impero Client – Windows



- 2.0 GHz+ Single Core Processor
- 2 GB RAM
- Microsoft Windows 7, 8, 8.1, 10, 11 (x86 and x64)
- Microsoft Windows Server 2008 R2/2012/2012 R2/2016/2019 (x86 and x64)
- Microsoft .NET Framework 4.62
- Windows Installer 3.5
- TCP/IP connection
- 5 GB SSD/HDD free space

When Running the Impero Education Pro Console

Up to 1500 clients      Up to 3000 clients      Up to 5000 clients

- |                          |                          |                          |                          |              |      |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------|------|
| • 2.0 GHz +<br>Quad Core | • 2.0 GHz +<br>processor | • 2.0 GHz +<br>processor | Single Core<br>processor | Dual<br>Core | Core |
| • 2 GB RAM               | • 4 GB RAM               | • 8 GB RAM               |                          |              |      |

### **Impero Client – Apple Mac**

- Intel Multicore Processor
- 2GB RAM
- Apple macOS 10.12+ Operating Systems
- TCP/IP connection
- 5 GB SSD/HDD free space

### **Impero Client – iOS**

- iOS v9.0.0+
- TCP/IP connection



### **Impero Client – Android**

- Android v5+
- TCP/IP connection

### **Impero Client – Chrome OS**

- Chrome 66+
- TCP/IP connection

### **Impero Enterprise Console**

- Supported Browser – Chrome, Safari, Firefox, Edge, IE10+
- TCP/IP Internet connection

### **Impero edpro.cloud**

- Supported Browser – Chrome
- Supported Clients – Windows and Chromebooks
- TCP/IP Internet connection

\* To ensure optimum performance and reliability it is required that the available free space is 3X the size of your log folder located at:

```
C:\Program Files (x86)\Impero Solutions Ltd\Impero  
Server\Data\Logs.
```

These requirements are based on an Impero Console user viewing the listed number of clients. Devices used only in workstation mode (student devices) require a 2GHz Single Core Processor and 2GB RAM only regardless of connected devices.



## Microsoft .NET Framework

Both the Impero Server and the Impero client require the correct .NET framework in order to function correctly.

### How to: Determine which .NET Framework versions are Installed

- [How to: Determine which .NET Framework versions are installed](#)

### Installing the .NET Framework

- [Install .NET Framework for developers](#)

## Installing Education Pro

### Download Impero Education Pro

Once the minimum system requirements have been satisfied, you can download the Impero Education Pro installation package and commence the installation.

You require an activation code to register your installation of Impero Education Pro.

Please contact our support team who can provide you with the download links for the most recent version of Education Pro along with your registration code.

- Email: [support@imperosoftware.com](mailto:support@imperosoftware.com)
- Tel (UK): +44 (0) 1509 611341
- Tel (US): 877-883-4370





## Impero Server Installation

Once you downloaded the correct Impero Education Pro installation files, locate 'ImperoServerSetupXXXX.msi', and double-click on it. You are then prompted to go through the following installation steps:

1. You can be prompted with a security warning asking if you wish to run this file. Click on 'Run'.
2. On the welcome screen, click on 'Next'.
3. Read through the End-User License Agreement. If you accept the terms, select the checkbox to mark your acceptance and click on 'Next'.
4. You are prompted to select an install location for the Impero Server. If you are happy with the default location, click on 'Next' and skip to step 7.
5. If you wish to change the install location, click on the 'Browse' button to navigate to an alternate location.
6. Once you have selected your alternate location, click on 'Next'.
7. Click on the 'Install' button.
8. Once the installation has completed, click on the 'Finish' button to close the Impero Server Setup wizard window.
9. Impero Server should now be installed. In order to continue setting up Impero, you are then required to register your Impero Server.

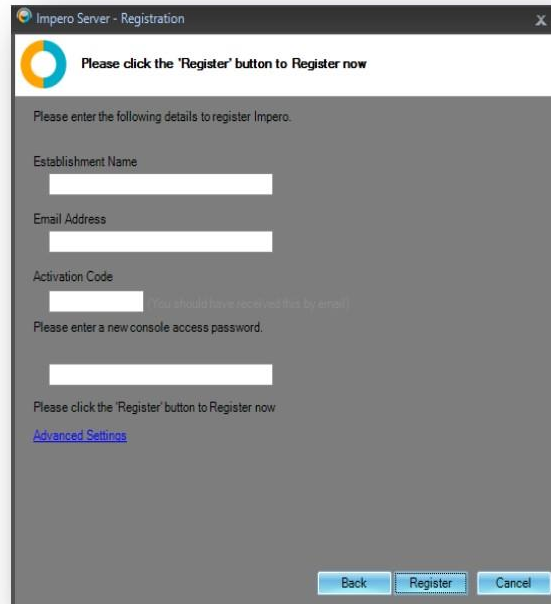
## Registering the Impero Server

1. Double click on the new Impero Server icon on your desktop.



Impero Server Icon (image)

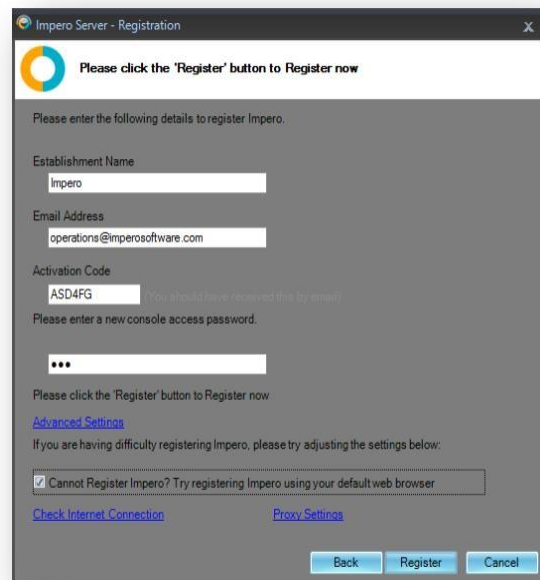
2. You then see an 'Introduction' window explaining the registration process. Please read this window, and then click on 'Next'.
3. On the following screen, specify your Establishment Name, Activation Code and a desired password. This password becomes your default Impero Console access password; although this can be changed once your server is registered. Once these details are specified, please click on the 'Register' button.



The image shows a registration window titled "Impero Server - Registration". At the top left is the Impero logo. The main text reads: "Please click the 'Register' button to Register now". Below this, it says "Please enter the following details to register Impero." and lists three input fields: "Establishment Name", "Email Address", and "Activation Code". A small note next to the Activation Code field says "(You should have received this by email)". Below the fields, it says "Please enter a new console access password." followed by another input field. At the bottom, it says "Please click the 'Register' button to Register now" and includes a blue link for "Advanced Settings". At the very bottom are three buttons: "Back", "Register", and "Cancel".

Impero Server Activation (image)

4. If the registration is successful, please skip ahead to Step 15. If the Impero Server failed to register, please continue to Step 5.
5. If your Impero Server failed to register, click on the 'Advanced Settings' button.



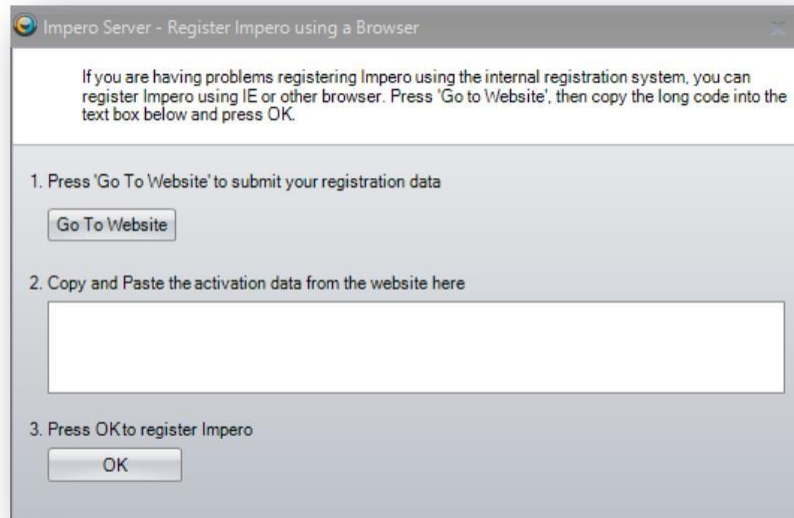
Impero Activation Advanced Settings (image)

6. If you are using a Proxy Server, click on the 'Proxy Settings' button. Specify the relevant details and click on 'OK'.



Impero Server Advanced Proxy Settings (image)

7. Click on the 'Register' button.
8. If the registration is successful, please skip ahead to Step 15. If the Impero Server still fails to register, please continue to Step 9.
9. Tick the box next to 'Cannot Register Impero? Try registering Impero using your default web browser', located under Advanced Settings.
10. Click on the 'Register' button. This opens the 'Register Impero using a Browser' wizard.



Register Impero using a Browser (image)

11. Click on the 'Go To Website' button.
12. This opens your default web browser and display an activation string. Select the string, and copy (CTRL + C) to your clipboard.
13. Switch back to the 'Register Impero using a Browser' window and paste your activation string (CTRL + V) into the text area.
14. Click on the 'OK' button, which should now register your Impero Server.
15. Once the registration is complete, you are presented with a 'Registration Complete' dialogue box. Take note of the details and click on 'Finish'.
16. You should now also receive an email confirming these details.
17. You are now ready to install the Impero Client across your network.

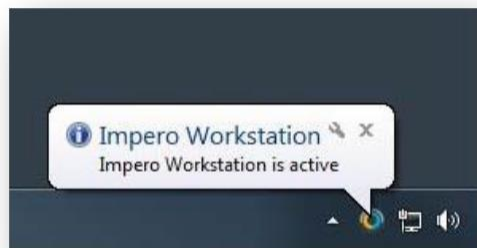
## Installing Windows Clients

Once your Impero Server installation is complete, you can then proceed to install the windows client application. In order to do so, locate the 'ImperoClientSetupXXXX.msi' file that you previously downloaded.

Double-click on this on the computer where you wish to install your first client\*.

\* The "ImperoClientSetup XXXX.msi" file is the installer for both the Impero 'teacher' Console and the Impero 'student' workstation.

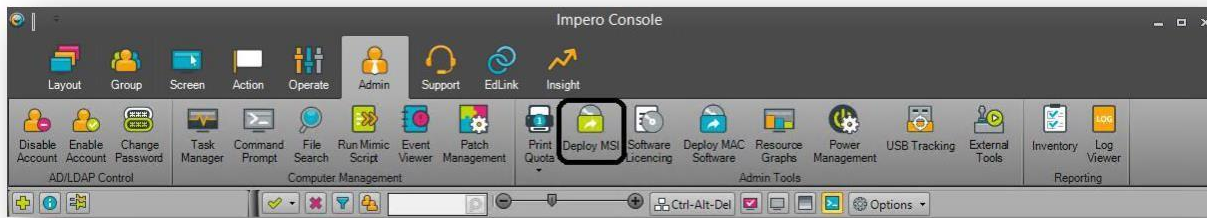
An 'Impero Console' desktop icon is created, and a system tray notification pop-up message tells you when the client is active. You can then begin to use the Impero Console or continue to install further clients across your network.



Client Installed and active (image)

## Using the Impero Console to deploy clients to your network.

Double-click the 'Impero Console' icon on your desktop, and when prompted enter your Console Access password - this was the password you created when registering your Impero Server earlier. This launches your Impero Console. Click on the 'Admin' menu icon and then select 'Deploy MSI'.



## Deploy MSI (image)

This now opens the 'Impero - Remote Deploy MSI' wizard which gives you three options with which you can deploy the Impero Client to your network.

First, it is necessary that you select the desired computers to install the Impero Client. You can do this a number of different ways: Found Computers, Manual Add and Add Domain.

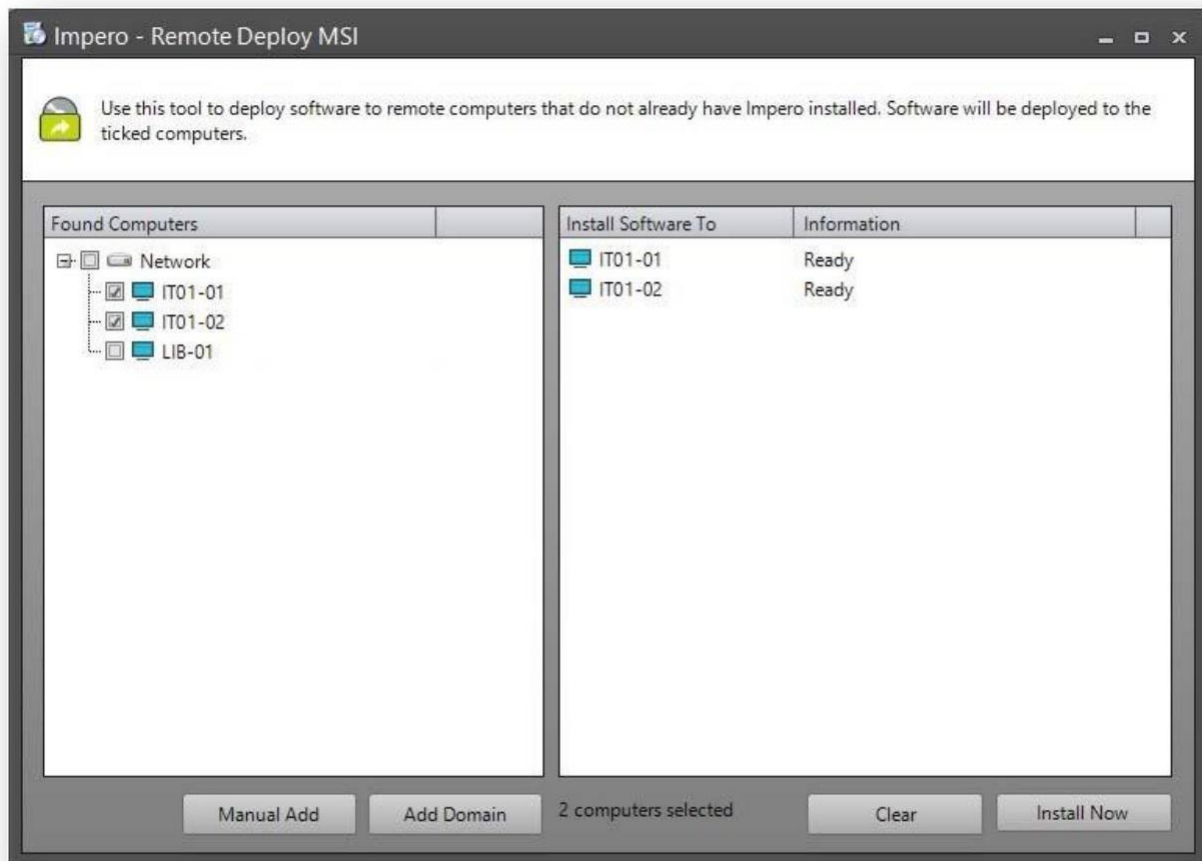
### Step 1 - Selecting Computers

#### Found Computers

You are presented with a list of computers that are found on your network by your computer on the left-hand side. You are required to tick the computers that you would like to install the Impero Client on, and those that you have ticked is displayed in the right-hand panel.

**NOTE:** This only displays the devices that are discovered by your Computer Browser service. This only displays PC's that have been switched on for at least 12 minutes and are on the same VLAN. If the desired computers are not found, see the 'Manual Add' and 'Add Domain' options.





Remote Install Client, Found Computers (image)

## Manual Add

Enter a computer name or IP Address

This option allows you to either, enter the computer name or the IP Address of the computer on which you want to install Impero client.

Enter an IP Address Range

This allows you to enter a starting IP Address and an ending IP Address. The 'Impero - Remote Deployment' wizard then tries to install the Impero Client to every IP Address in that range.



## Manual Add (image)

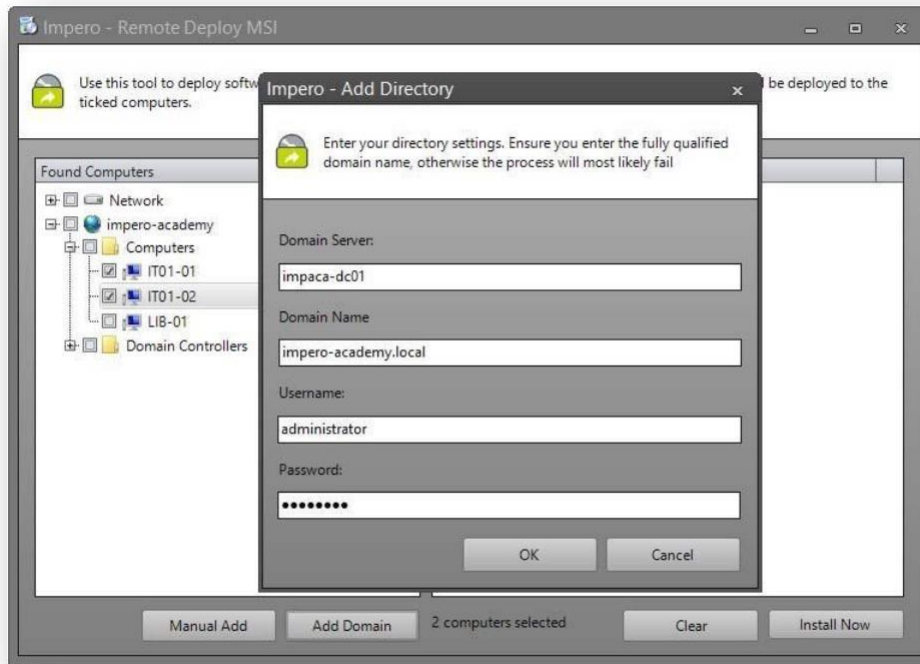
Any entries that you added using either of these methods then loads a list of the Computer Names/IP Addresses into the right-hand panel of the 'Impero - Remote Deploy MSI' window.

## Add Domain

This option allows you to load your Active Directory (AD) structure into the 'Impero - Remote Deploy MSI' wizard. Enter your Active Directory details and a valid set of credentials with which you can connect to your AD and click on 'OK'.

This then loads your AD structure into the 'Found Computers' panel on the left-hand side, underneath the list of computers that have been discovered on your network.

If you do not see your AD structure, you can be required to minimise the 'Network' node by clicking on the icon to the left of the 'Network' heading.



Add Domain (image)

You may now select the computers that you would like to install the Impero Client on, and those that you have ticked is displayed in the right-hand panel.

## Installing the Client

Once you selected the remote computer(s) using your preferred method from Step 1, click on the 'Install Now' button. On the dialogue box 'Impero - Choose MSI', select 'Browse' to locate the "ImperoClientSetupXXXX.msi". It is necessary that this file is local to this machine, as the MSI deployment tool does not support the use of shared directories.

Leave the 'Enter Parameters' dialogue box blank as Impero Client already has the parameter silently built-in. Click on 'OK'.



Click on 'OK' on the dialogue box warning you that Impero requires Microsoft .NET Framework.

In the 'Impero - Enter Password' dialogue box, enter a username and password that allows you connection to the remote computer(s). You may choose to use a local admin user account or a domain admin user account.

Local Account: Username: Administrator Password: password

Domain Account: Username: Domain\Administrator Password: password

Click on 'OK'.

In the 'Impero - Enter Server IP' dialogue box, enter the IP Address of your Impero Server. If you do not know the IP Address, you can leave this blank, as the Impero Client does a UDP Broadcast to find the Impero Server. If you use multiple VLANs across your network, you are required to enter the IP Address of your Impero Server at this stage or see creating a DNS record (advised).

Click on 'OK'.

The Remote Deploy Wizard now installs the Impero Client on the computers you have selected. It only deploys to ten computers at a time, reducing the amount of traffic on your network. As one client deployment finishes, another starts. You see either 'Installation Successful' or an error message. If you receive an error message, please refer to troubleshooting Windows clients.



## Manual Installation of the Impero Client

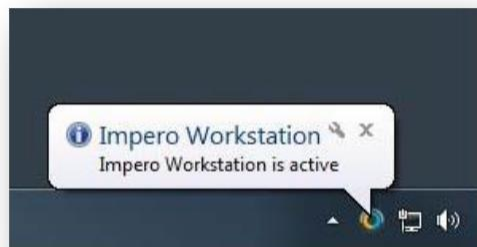
In order to manually install the Impero Client on a computer, locate and run the “ImperoClientSetupXXXX.msi” file on the local PC. You can navigate to your Impero Server to retrieve this file from the following location:

- 64 bit machines - 'C:\Program Files (x86)\Impero Solutions Ltd\Impero Server\Updates\ImperoClientSetupXXXX.msi'
- 32 bit machines - 'C:\Program Files\Impero Solutions Ltd\Impero Server\Updates\ImperoClientSetupXXXX.msi'

Copy the “ImperoClientSetupXXXX.msi” file to the machine that you wish to install the client on and run the file.

Once it finished the 'Impero Client' window disappears, and an 'Impero Console' desktop icon is created. Once the Impero Client Service has started a system tray notification pops-up a message telling you that it has connected to the Impero Server.

You can now begin to use the Impero Console.



Client Installed (image)



## FAQ's for Advanced Users

**Q.** Can I include the Impero Client in a default image that can be pushed out to the rest of the network?

**A.** Yes, Impero can be installed within a master image that then can be pushed out to the rest of the network. Impero does not require any additional configuration settings once it is installed on the image. **Q.** What if we use multiple VLAN's on our network?

**A.** Impero supports multiple VLAN's. You are required to create a DNS Record or when you remote deploy the Impero Client be sure to enter the IP Address of the Impero Server when prompted to do so.

**Q.** Can I use Group Policy Object (GPO) to deploy the Impero Client?

**A.** You may deploy the clients using Group Policy. Please refer to the Group Policy chapter of this guide, or the Microsoft website for additional information.

**Q.** We have Thin Clients on our network, will Impero work?

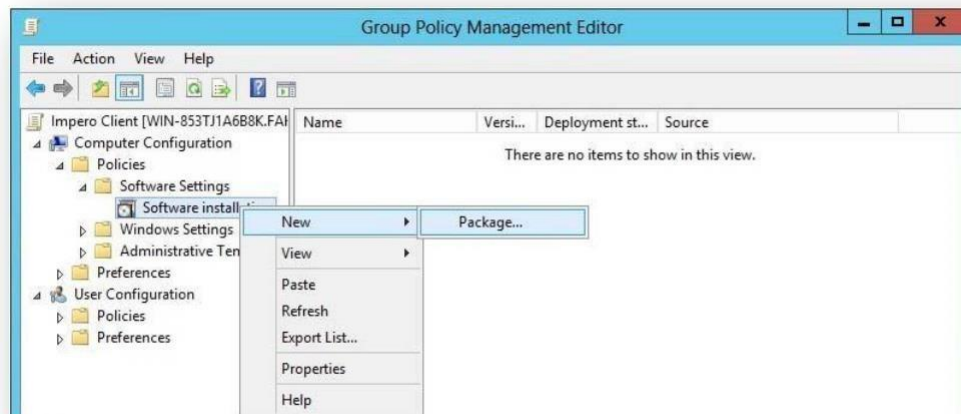
**A.** Yes, Impero supports many different types of Thin Client, i.e., Terminal Server, NComputing, VMware, Citrix.

## Group Policy

You can use Group Policy (GPO) to deploy the Impero Client across your network.

You are first required to create a distribution point on your server, which is a shared network folder from which the Impero Client is distributed. Ensure that your Impero client MSI file is copied to this network folder.

You can now configure a GPO to distribute the Impero client MSI. In 'Group Policy Management', create a new GPO or add to an existing object. Right click on the desired policy and select 'Edit' to open the 'Group Policy Management Editor' window. On the left-hand side of this window, choose whether you wish to distribute the client via 'Computer' or 'User', and browse to 'Policies > Software Settings'. Right-click on 'Software installation' and then select 'New > Package'.



New Group Policy Package (image)

Browse to the shared network folder you previously set up, select the Impero client MSI that you copied into this folder, and click on '**Open**'.

If you are prompted with a '**Deploy Software**' pop-up, select '**Assigned**' and click on '**OK**'. The selected file should now be displayed on the righthand side of the window.



Impero Client GPO (image)

Close the 'Group Policy Management Editor' to return to the 'Group Policy Management' window. You can now define where you wish to install the Impero Client using GPO. Select the GPO to which you added the Impero Client on the left of this window. On the right-hand side, in the '**Security Filtering**' panel, click on '**Add**'. Enter the name of the group to which you wish to distribute the client and click on '**OK**'.



Distribution Group (image)





Computers on your network may require a reboot before they pick up any changes made to your Group Policy. For further information on using Group Policy to deploy MSI files on your network, please visit the Microsoft website.

## Installing macOS Clients

The Impero macOS client provides many of the same capabilities of the Windows client and gives you the ability to manage the macOS machine from any Windows operating system.

Locate the 'ImperoClientSetupMAC.zip' file you downloaded earlier and extract it. The extracted folder contains the .dmg file that you are required to run on the macOS machine to install the Impero client. The .dmg file is required to run manually on the macOS machine or run by any other means that you have to deploy to macOS machines, i.e., Apple Remote Desktop.

**NOTE:** Once the Impero Apple mac software is installed, you can use Impero to deploy software to your macOS devices.

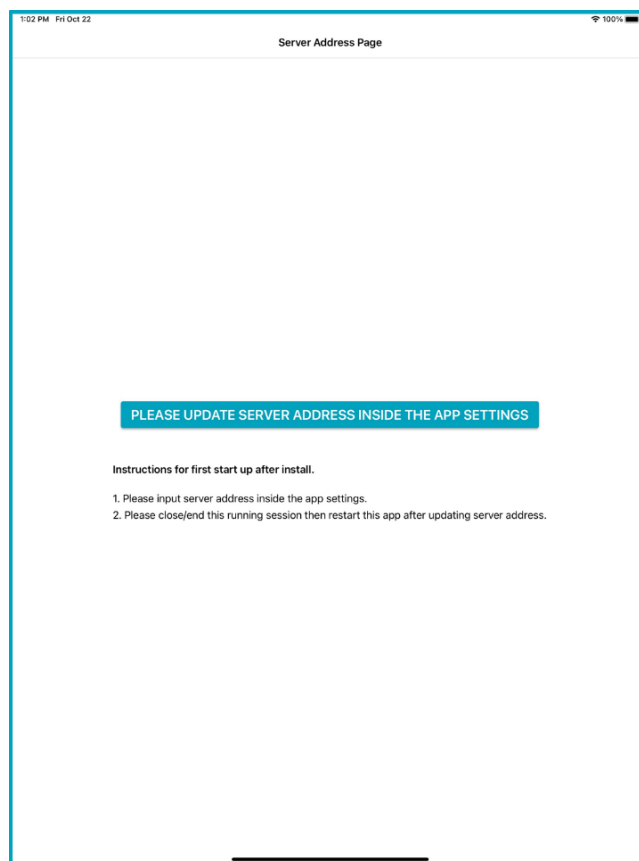
To manually install, double click on the downloaded file and navigate through the following steps. Once the install finishes the program disappears. A notification in the Finder bar informs you when the client connected to the Impero Server.

If you have any issues, please see the section on 'Troubleshooting Apple Mac Clients'.

## Installing iOS Clients

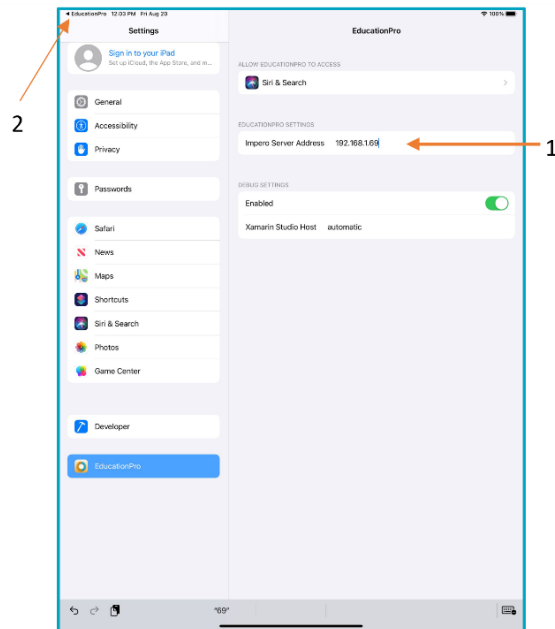
1. On the iOS device, navigate to the app store (\*Include screen capture\*).

2. Search for Education Pro.
3. Click on install.
4. Once installed, run the application. You may be prompted to accept the permissions (the application does NOT work without accepting the permissions – if asked).
5. On first install it is highly likely you are displayed the server address page (displayed below). This is due to no server address being picked up inside the device settings. Click on the button requesting you to update the server address. That then takes you to the native iOS settings > Education Pro. Please continue to the next step.

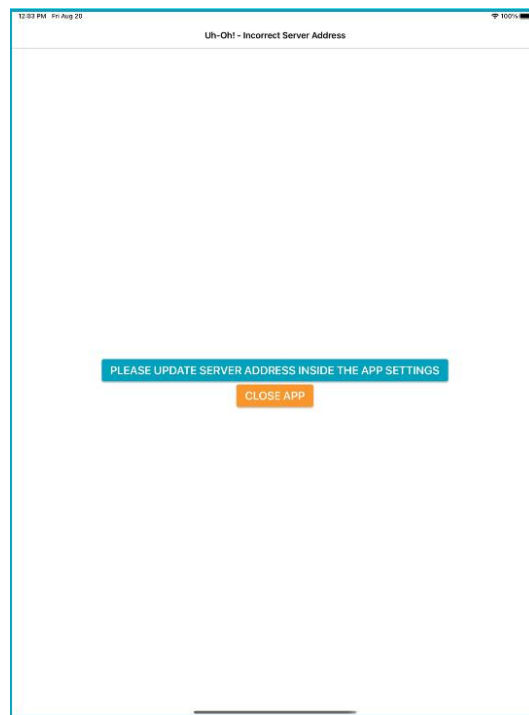


6. Please specify the desired server address into the entry as displayed below (1). Once entered please hit the return key on the keypad, this helps ensure

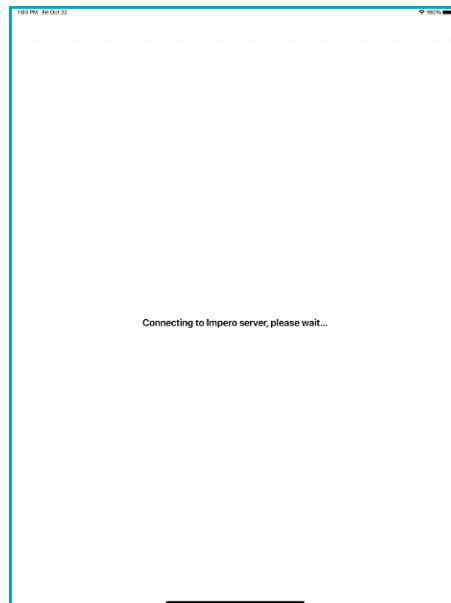
that the server address is saved. Return to the Education Pro application by clicking on the “Education Pro” in the top left of the screen (2).



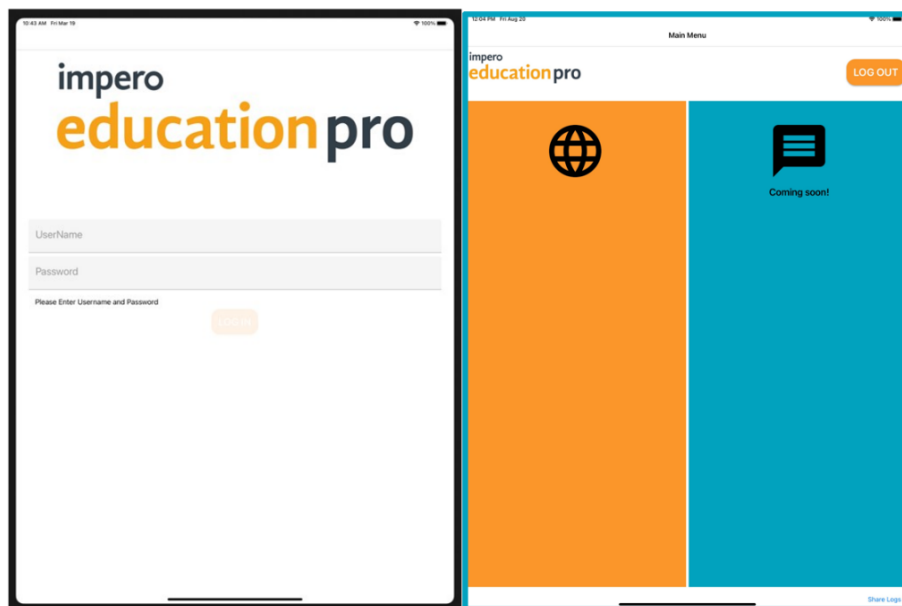
7. Click on the button stating “**Close App**” if you are certain that you specified the correct server address. Then re-run the application.



8. The splash screen remains until a connection has been made.



9. You then land on the Log-In screen or the main page (this is dependent on the server settings established at the start of this section).

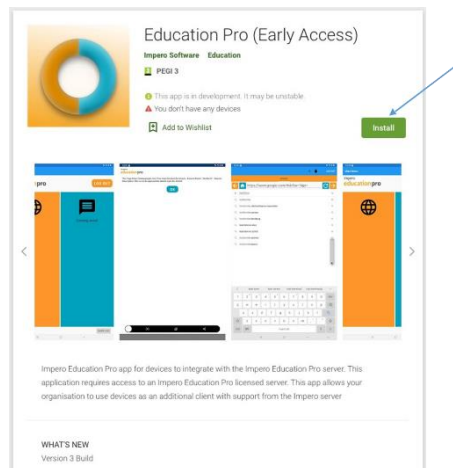


10. The device is now set up and ready to be used by an end-user.

For further information on the Impero iOS Pro application, please see the iOS managed browser app user guide.

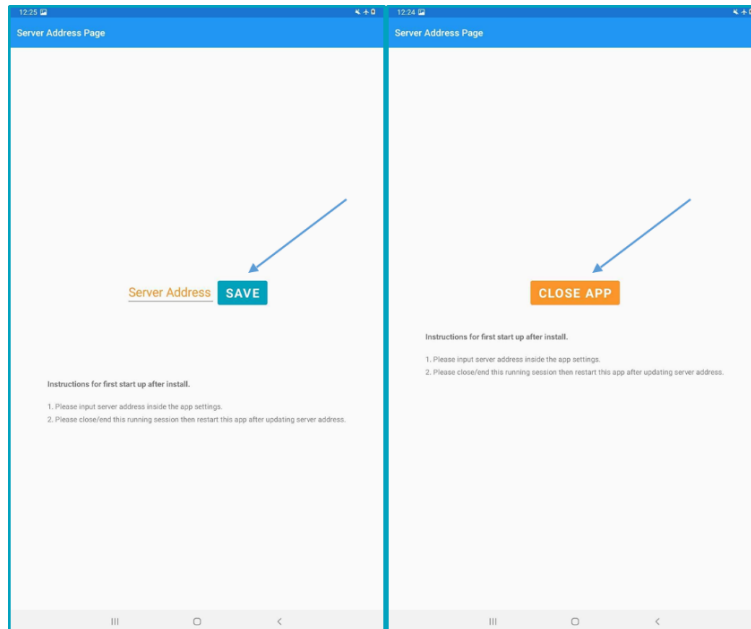
## Installing Android Clients

1. On the Android device, navigate to the Play Store.
2. Search for Education Pro.
3. Click on install.



4. Once installed, run the application. You may be prompted to accept the permissions (the application does NOT work without accepting the permissions – if asked).

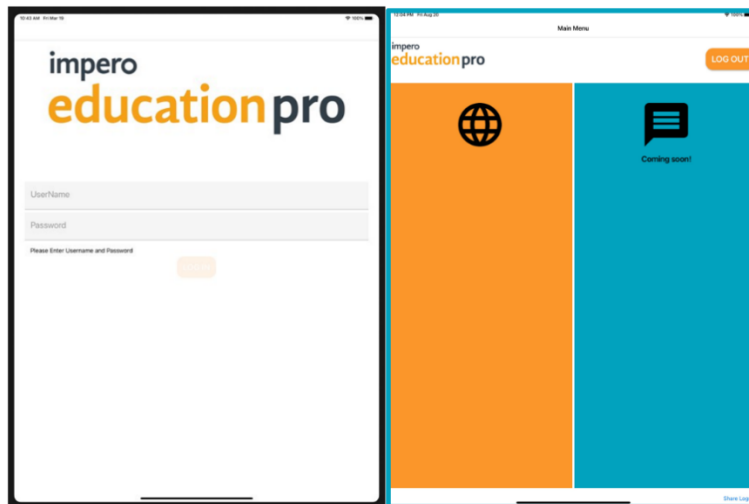
5. On first install you are required to specify the server address and click on the **“Save”** button. You are then required to click on the **“Close App”** button.



6. The splash screen is displayed, followed by a connecting to server page.



7. You then land on the Log-In screen or the main page (this is dependent on the server settings established at the start of this section).



10. The device is now set up and ready to be used by an end-user.

## Installing via MDM

When deploying managed configurations via an MDM (Mobile Device Management) Solution you will need to provide a managed config key and a value. To set the Impero Server address for the iOS device to connect too, you can enter the below key/value pairs inside the property list editor settings section of an MDM.

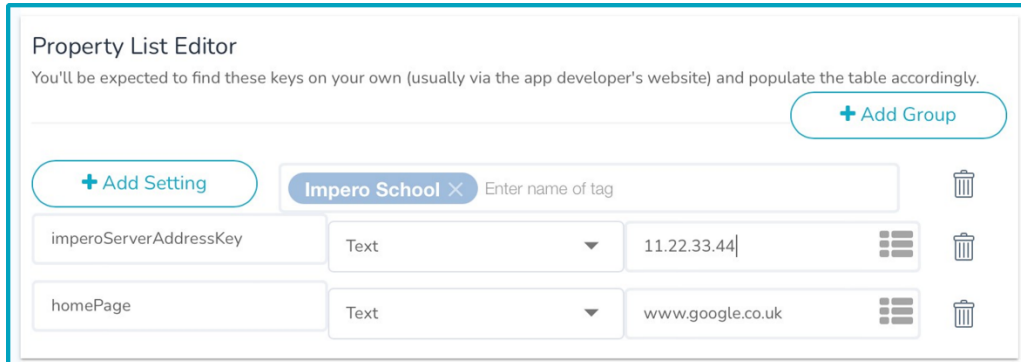
- The key value pairs are case sensitive.
- KEY = imperoServerAddressKey
- Value (Text) = i.e., (11.22.33.44)

This will enable you to mass deploy the app across your organisation. You can also set the Homepage to your organisations domain. The default if not specified is google.

The key value pairs are case sensitive.

KEY = homePage

Value (Text) = i.e., (<https://www.google.co.uk>)



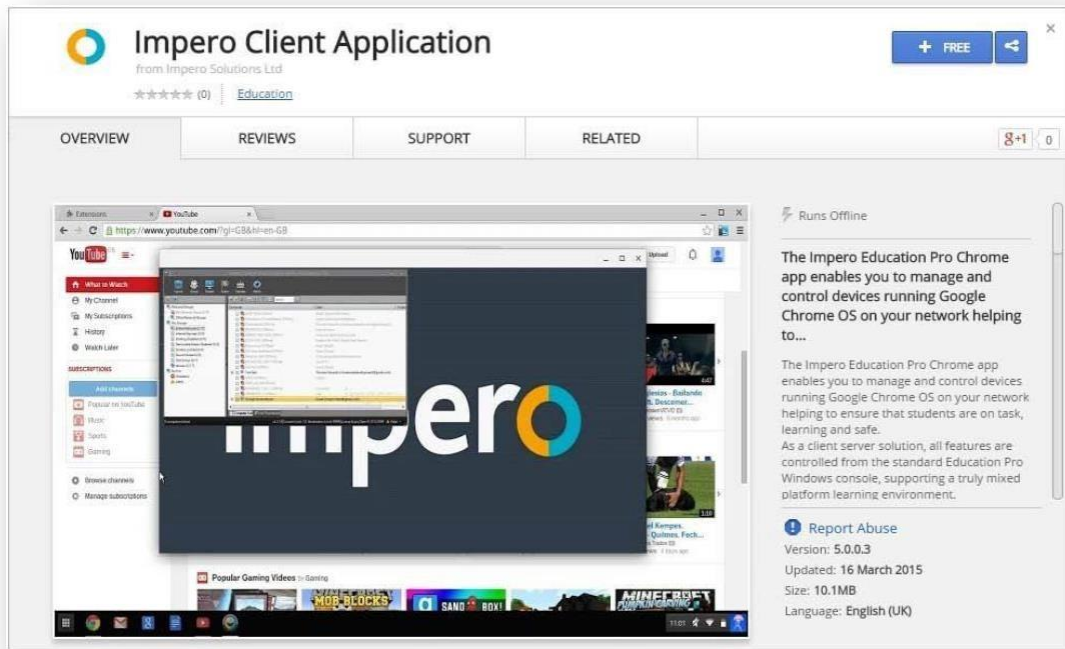
The screenshot shows the 'Property List Editor' interface. At the top, it says 'Property List Editor' and 'You'll be expected to find these keys on your own (usually via the app developer's website) and populate the table accordingly.' There are two buttons: '+ Add Setting' and '+ Add Group'. Below these is a table with two rows. The first row has a key 'imperoServerAddressKey', a dropdown menu set to 'Text', and a value '11.22.33.44'. The second row has a key 'homePage', a dropdown menu set to 'Text', and a value 'www.google.co.uk'. Each row has a trash icon to its right. Above the table is a search bar with the text 'Impero School' and a placeholder 'Enter name of tag'.

Key	Type	Value	Actions
imperoServerAddressKey	Text	11.22.33.44	[Grid] [Trash]
homePage	Text	www.google.co.uk	[Grid] [Trash]

## Installing Chromebook Clients

In order to install the Impero application to your Chromebook device, you are required to download the Impero Client Application and Impero Client Extension from the Chrome Web Store. Click on the 'FREE' button in order to download and install the two applications.





Application Download (image)

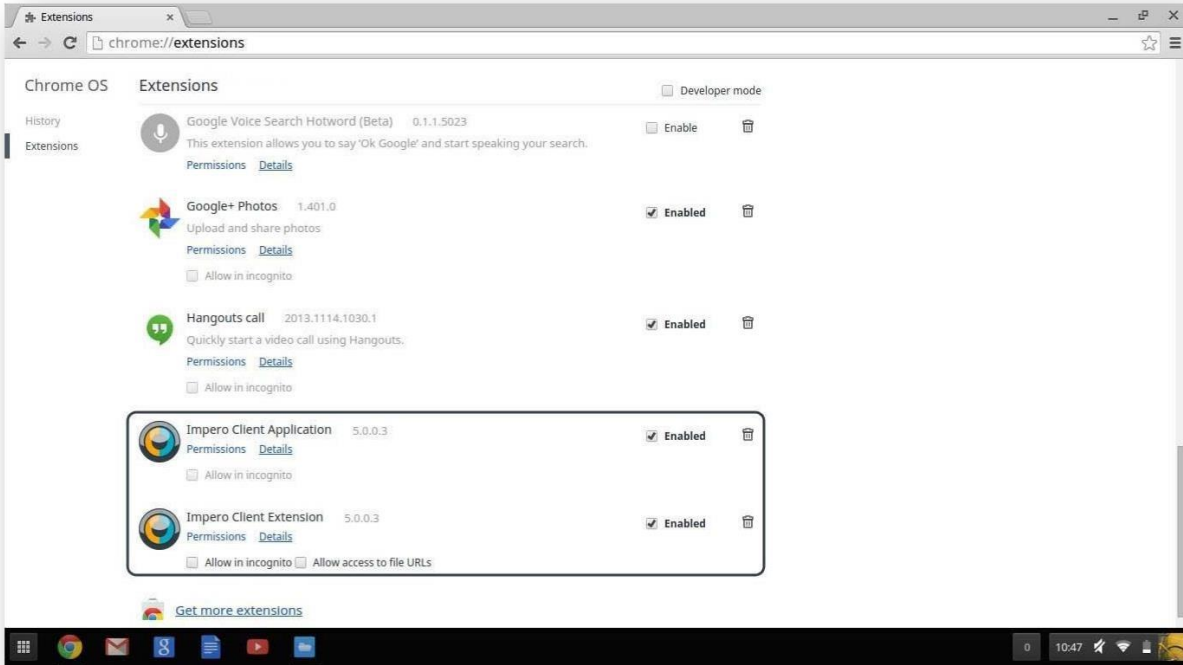
When prompted to confirm the new applications, click on the 'Add' button.



Confirm New App (image)

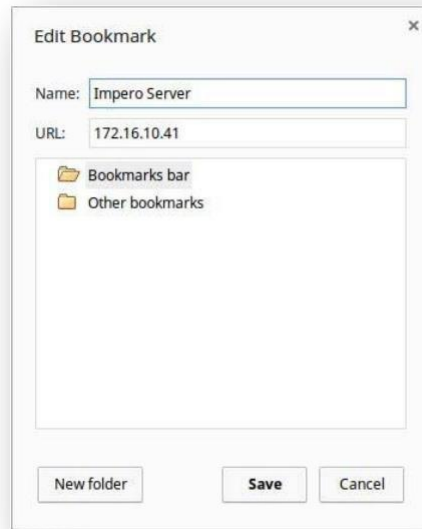
To verify that your applications have installed, launch your Google Chrome browser and navigate to 'chrome://extensions'. Ensure that 'Impero Client

Application' and 'Impero Client Extension' both appear in your list of browser extensions and are both set to 'Enabled'.



Chrome Extensions (image)

Once downloaded and installed, you are required to configure your Impero Chromebook application to connect to your Impero Server. In order to do this, first launch your Google Chrome web browser. Double-tap the area under the URL bar to open the 'Bookmarks' menu and select 'Add page...'. The 'Edit Bookmark' page now opens. In the 'Name' field, enter 'Impero Server', and in the 'URL' field enter the IP Address of your Impero Server machine, i.e., 672.66.60.46 Once entered, click on 'Save'.



Edit Bookmark (image)

It is necessary that this bookmark is present for the Chromebook to connect to the correct Impero Server. You can be required to reboot your device after adding the bookmark in order for the change to take effect.

The Chromebook application and extension can also be deployed through G Suite. For further details on Chromebook integration with Impero Education Pro, please see the Chromebook manual.

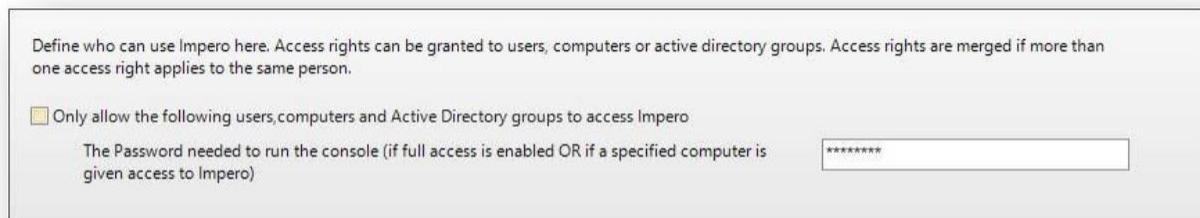
**NOTE:** If you are deploying Impero Education Pro using the Google G suite admin console then please refer to the full ChromeOS setup guide linked below:

- [Impero Education Pro - ChromeOS Install Guide](#)

## Getting Started

Once you install your Impero Server and your first Impero clients, there are a few recommended configuration steps you can carry out to ensure you take full advantage of the features within Impero Education Pro.

The recommended configuration involves setting up your Console Access Rights, creating groups within the Impero Console, and integrating Impero with Active Directory and installing the latest managed key word policies within the Impero Server.



Define who can use Impero here. Access rights can be granted to users, computers or active directory groups. Access rights are merged if more than one access right applies to the same person.

Only allow the following users, computers and Active Directory groups to access Impero

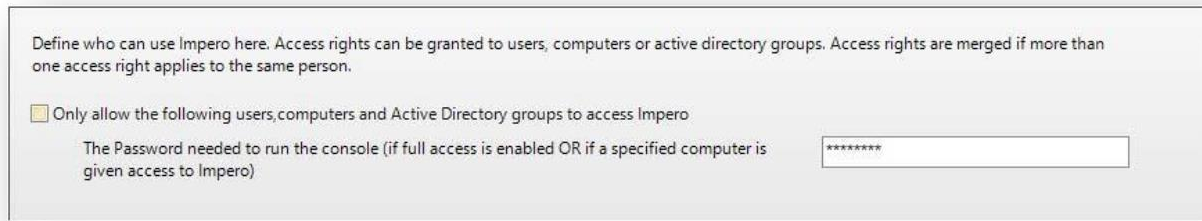
The Password needed to run the console (if full access is enabled OR if a specified computer is given access to Impero)

## Console Access Rights

The first step is to set up your Console Access Rights. This defines who can launch the Impero Console, and what level of access they have.

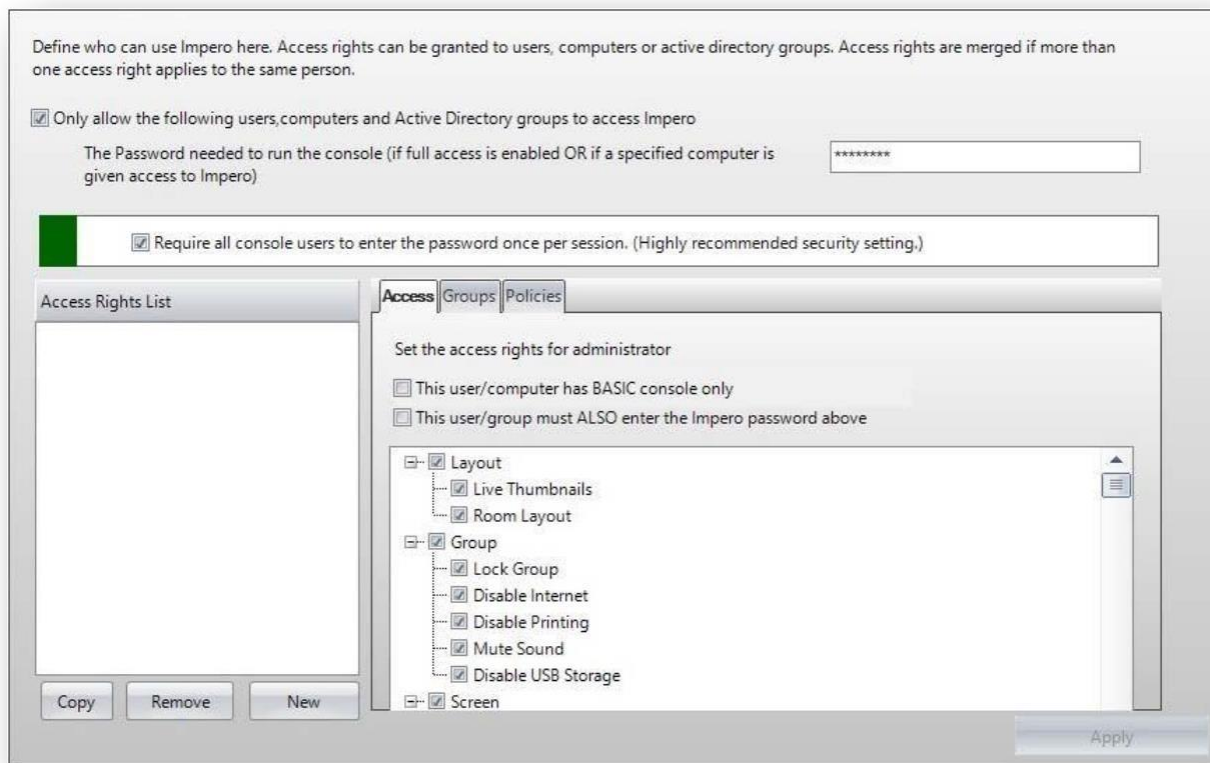
In order to set this up, open your Impero Server. Click on the 'Settings' tab, and then select 'Console Access Rights'.

Every workstation that has the Impero client installed to it has the Impero Console installed. By default, the Console is restricted so only users and devices on the console access rights list can open the console providing they know the access password (setup during registration).



## Console Access Rights – Password (image)

However, you can unlock the Impero Console for any user or device (that has it installed) by unticking the option to 'Only allow the following users, computers and Active Directory group to access Impero'.



With the option enabled (default on) access to the Impero Console is restricted only to members of the 'Access Rights List' on the left of this window. Click on 'New' to add a new member.

You can choose to add specific usernames, computer names and Active Directory (AD) groups to the Access Rights List. Select which member type you wish to add, enter the name into the text area and then click on 'OK'.

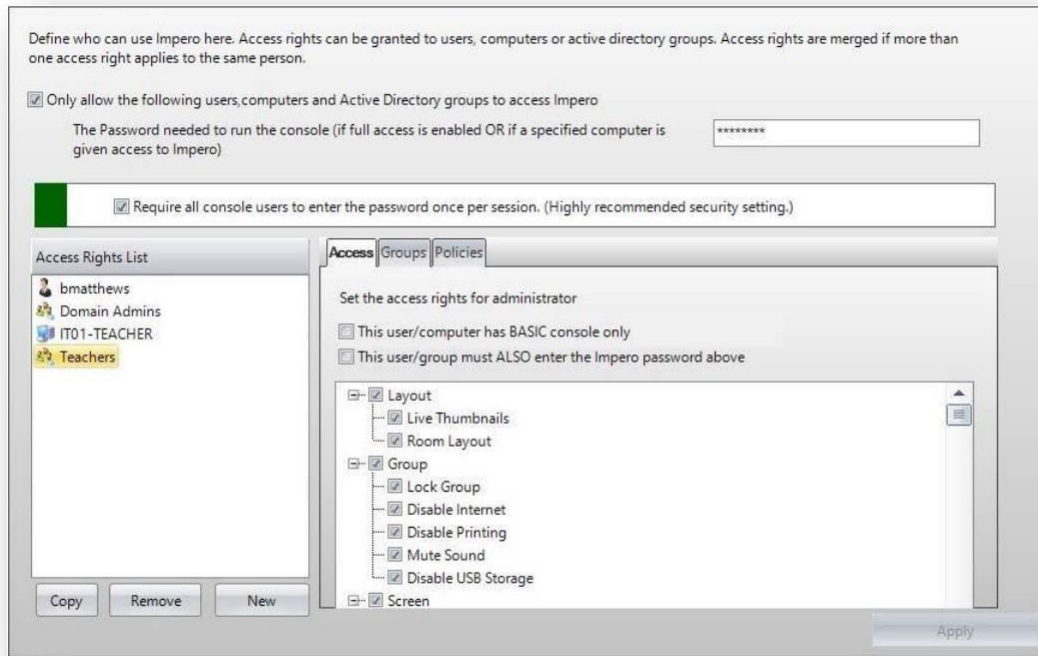


Add User (image)

If you chose to add an AD group, you can click the 'Find' button to browse your AD for a specific group.

**NOTE:** You can add only one member at a time from this window.

All members you entered are added to the Access Rights List area.



Access Rights List (image)

After adding any members to the Access Rights List, ensure you click the 'Apply' button. From then on, only members of the Access Rights List have access to the Impero Console.

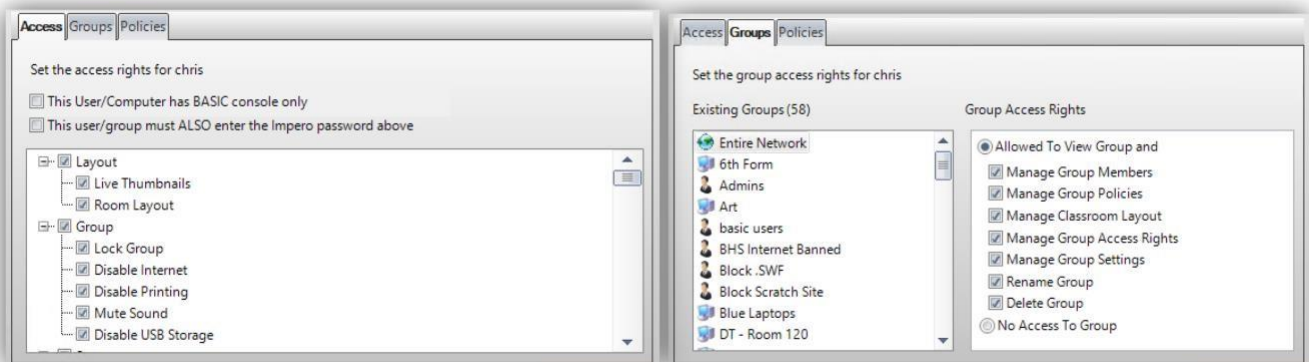
Any user that appears in this list or belongs to an AD group that appears in this list, is prompted to enter the Console access password once per session. Once authenticated, they are no longer prompted to specify the password if they re-launch the Console during that session. However, if they log out of their operating system, the next time they log in they are required to authenticate again when opening the Console the first time.

Any user logged onto a computer name that appears in this list can launch the Impero Console but requires that you specify the Console password every time.

All other users are told that they do not have access rights if they attempt to open the Impero Console.

For each member of this Access Rights List, you can further configure their access within the Console.

Select a user in the Access Rights List; on the right-hand side, under the 'Access' tab, you can then untick any feature that you do not wish to give access to within the Impero Console. For example, you may not want teaching staff to have access to certain features under the 'Admin' toolbar in the Console.



Set Access Levels (image)

With a user selected in the Access Rights List, click on the 'Groups' tab on the right-hand side; you can also modify what level of access the user has to certain groups in the Impero Console by selecting the group you wish to edit access for and then selecting the relevant Group Access Rights. For example, you may not want teaching staff to have access to the 'Entire Network' group. Similarly, you can edit user access to Impero policies from the 'Policies' tab.



Once you have found the device Unique ID, launch your Impero Server, and navigate to the 'Console Access Rights' sub-tab under the 'Settings' tab.

Any settings you have applied here takes effect immediately. Please ensure your Console Access Rights are properly configured so that only the relevant users have access to the Impero Console, and that they have the correct level of access. Once these are configured, you can start using Impero Education Pro.

## Active Directory Settings

Impero Education Pro can integrate with your Active Directory (AD), allowing you to import users to Impero from AD amongst other features such as password changes.

The screenshot shows the 'Active Directory Settings' configuration window. At the top, there is a navigation bar with tabs: 'Active Directory Settings', 'Resource Logging', 'Console Access Rights', 'Mail Server Settings', 'Acceptable Use Policy', 'Computer Availability', and 'Group Timetable'. Below this, there is a sub-tab bar with: 'Lock Screen', 'Misc', 'Pin Group Settings', 'Insight', 'Built-In Groups', 'SIS Integration', 'Cloud Configuration', and 'Lesson Management'. The main content area contains the following fields and options:

- Text: "Some elements of Impero assume that Active Directory access is available. These details are required if linking to Active Directory."
- Text: "Fully qualified Domain Name(FQDN) of a Directory Server (e.g- servername.test.local)"
- Text input field for FQDN.
- Checkboxes:  Use LDAPS,  Use FQDN
- Text: "User name (Format: DOMAIN\USERNAME)"
- Text input field for User name.
- Text: "Password"
- Text input field for Password.
- Checkboxes:  Force Google Chromebooks to authenticate with Active Directory,  Force Android and iOS devices to login
- Checkboxes:  Use Advanced Settings
- Text: "Advanced Settings"
- Text: "Connection String"
- Text input field for Connection String.
- Section: "Authentication Options"
- Checkboxes:  Anonymous,  Sealing,  Encryption / Secure Sockets Layer,  Delegation,  Secure,  Read-only Server,  Fast Bind,  Server Bind,  Signing
- Buttons: "Test Directory Settings" and "Apply"

Active Directory Settings (image)



In order to set the integration with AD, open your Impero Server. Select the 'Settings' tab; the 'Active Directory Settings' sub-tab is then displayed.

Enter your AD server details into the three available fields.

Please ensure that you specify the Fully Qualified Domain Name of your AD server into the first field and include the domain name in the second field.

Advanced settings can be used to connect to specific LDAP directory servers.

Click on the 'Test Directory Settings' button in order to verify the connection to your AD server.

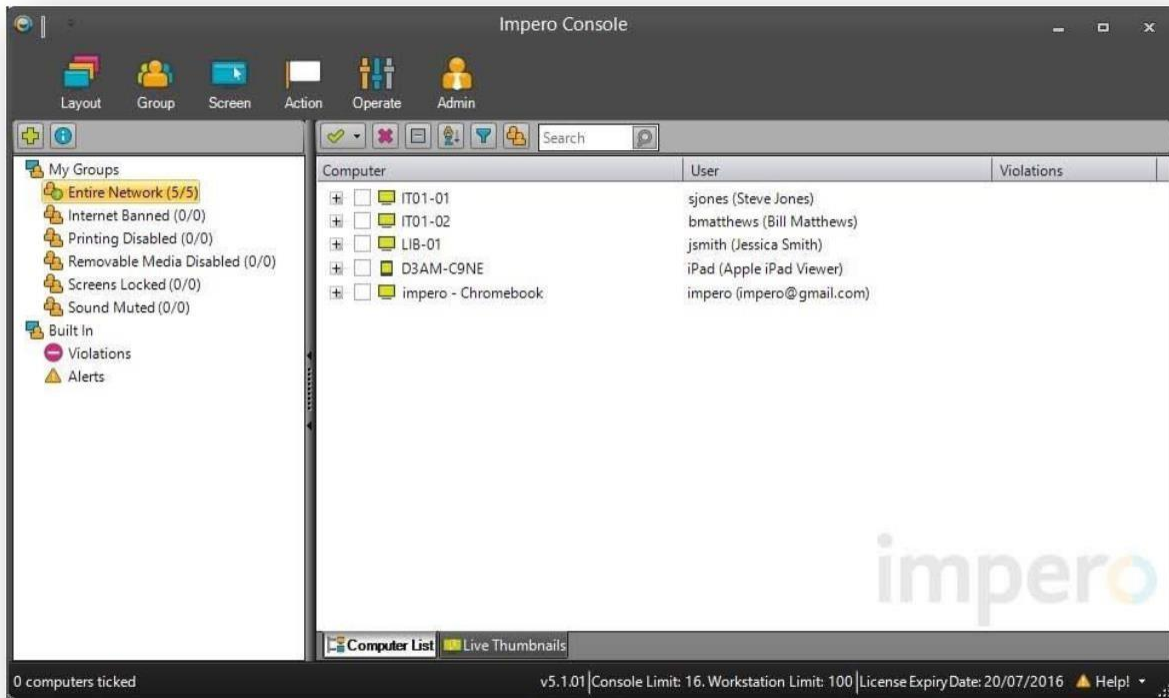
Force Android and iOS devices to login triggers active directory authentication on the managed browser apps for both platforms so that their username appears against any logs from these devices.

A further option here allows you to prompt Chromebook device users to enter the AD credentials upon logging into the device so that their username appears against any logs from the Chromebook device.

Once your AD settings are successfully applied, you can move onto creating groups within the Impero Console.

## Impero Groups

To create groups within Impero, first launch the Console by double-clicking the 'Impero Console' shortcut on your desktop. Specify your Console password (created when registering your Impero Server), which opens the Console on your screen; displaying all the clients you installed Impero to on the righthand side of the window.



Impero Console (image)

On the left-hand side of the Console window, you see the six default groups, which are automatically created within Impero. The 'Entire Network' group contains all Impero clients that are installed on your network and connected to the Impero Server. The following five groups - 'Internet Banned', 'Printing Disabled', 'Removable Media Disabled', 'Screens Locked', and 'Sound Muted' - allow you to place restrictions on specific users by adding them to the group.


In addition to the six default groups, you are able to create your own groupings in Impero by creating custom 'Computer' groups and/or 'User' groups.

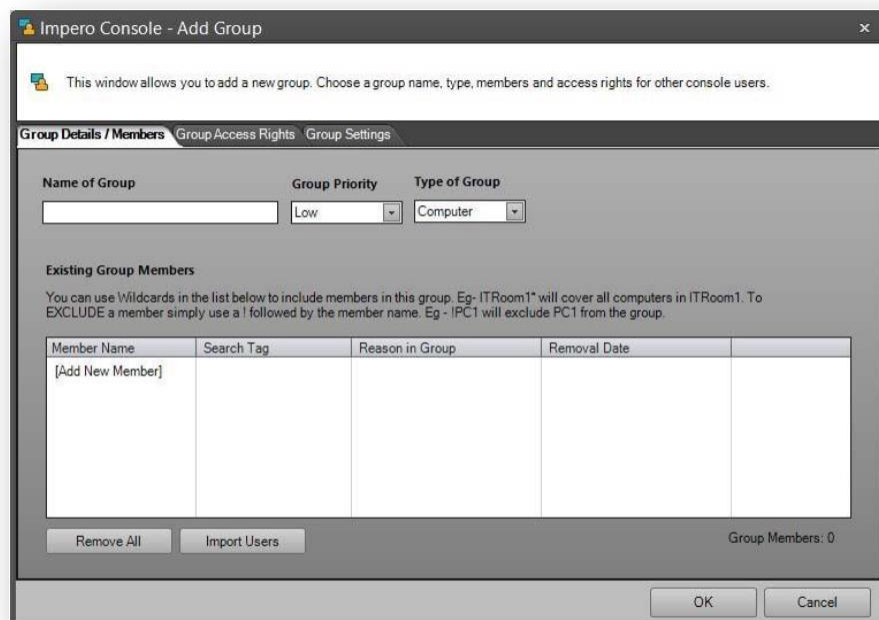
## Computer Groups

A computer group can contain any grouping of computers, i.e., IT suites, classrooms, laptop trolleys etc. The group contains these computers regardless of the user that is logged into them.

## User Groups

A user group can contain any grouping of users, i.e., staff, students, year 8 students etc. The group contains these users regardless of which computer they log into. These groups can be imported from Active Directory.

To create a custom group, click on the  icon in the top left of the Console window, above the list of groups. You then see the 'Add Group' window.



Add Group (image)



There are a number of fields in this window to complete in order to create your group:

### **Name of Group**

Allocate an appropriate name for your group, for example 'IT Suite', 'Laptop Trolley' for computer groups, 'All Staff', 'Year 10' for user groups.

### **Group Priority**

You can choose a priority from 'Low', 'Medium' or 'High'. Typically, a computer group is set to 'Low' while a user group is set to 'Medium' or 'High'. Please see the Group Priorities section for a full explanation of priorities and best practices.

### **Type of Group**

Select from the drop-down list whether you are creating a 'Computer' or 'User' group.

### **Existing Group Members**

Under this section, you are able to add or edit the members of the group you are creating:

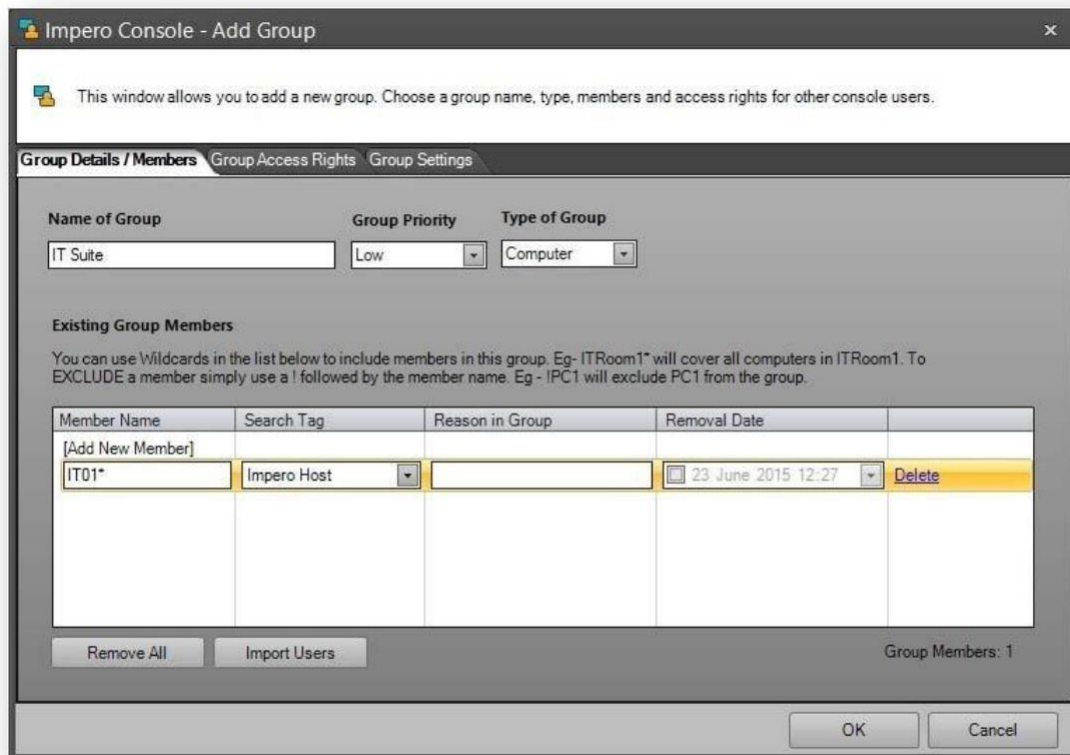
#### **Computer Group Members**

If you have selected 'Computer' in the 'Type of Group' drop-down list, you are required to add the required computers to the 'Existing Group Members' area. Click on the [Add New Member] link under the 'Member Name' column.

A new row is displayed where you can add a new member to the group. You can enter the client 'hostname' to the 'Member Name' field to add a specific

computer to the group. You can also choose to populate this group using any of the methods displayed in the 'Search Tag' drop-down list.

The 'Member Name' field supports the use of wildcards, by entering the asterisk (\*) key before or after any term, for example, entering 'IT01\*' populates this group with all client machines where the hostname begins with 'IT01'.



New Computer Group (image)

Click on 'OK' to save your new group.

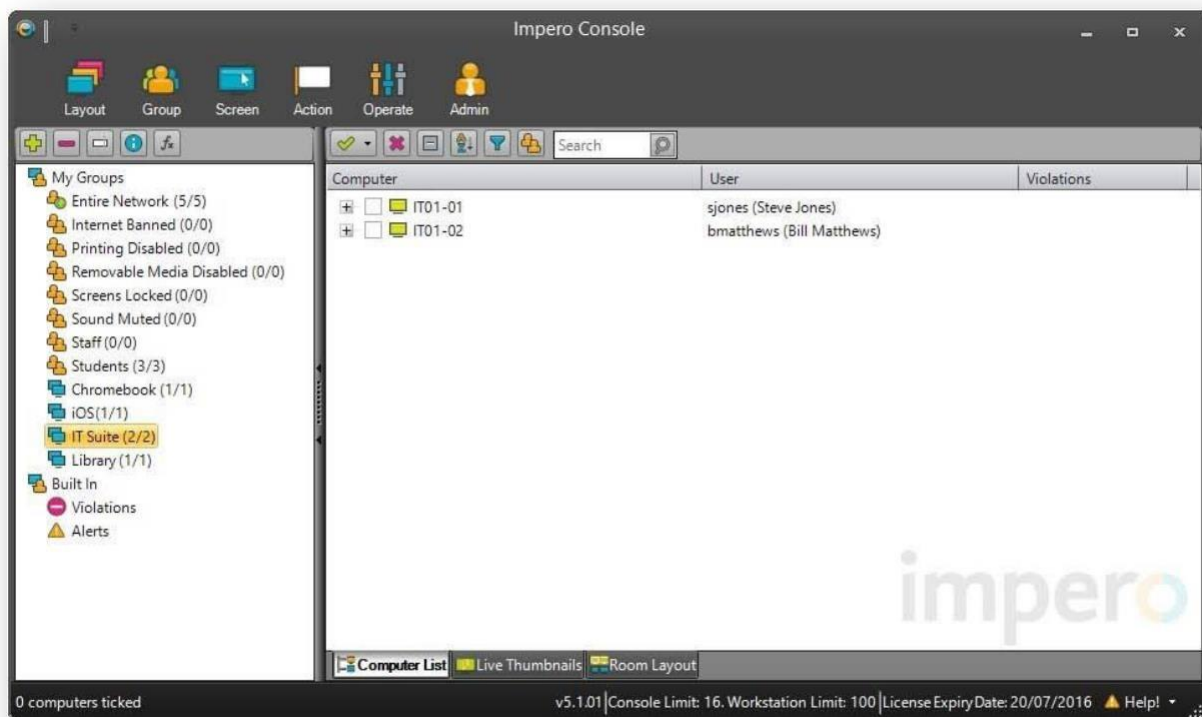
## User Group Members

If you have selected 'User' in the 'Type of Group' drop-down list, you are required to add the required users to the 'Existing Group Members' area.

You can click on the [Add New Member] link under the 'Member Name' column to add specific usernames to this group. To add a group from Active Directory, select 'AD Group' from the 'Search Tag' drop-down list, and type the name of your AD group into the 'Member Name' field.

Click on 'OK' to save your new group.

As you create and save your new groups, they are displayed on the left-hand side of the Console window, under the six default groups. Computer groups have a blue device icon, while user groups have an orange user icon by their group name.



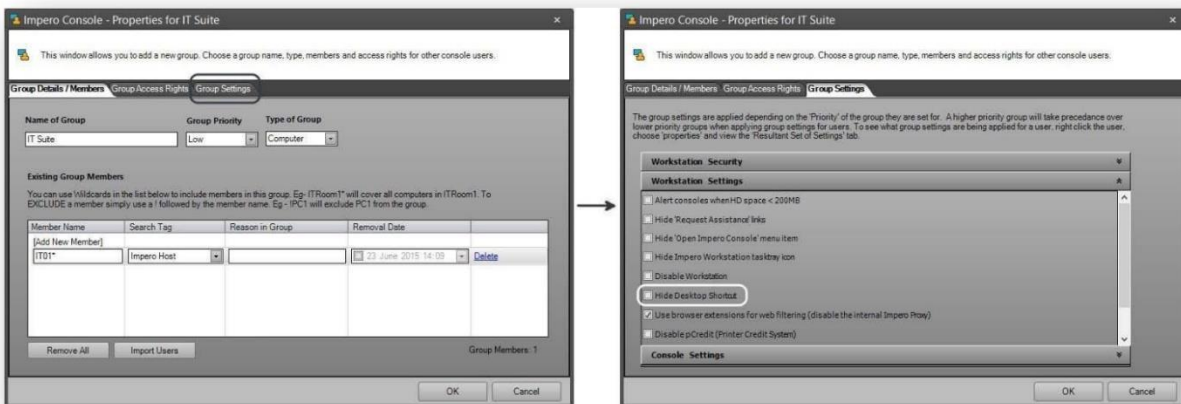
Impero Groups (image)

Once you created your Impero Groups, it is important to help ensure you have your group priorities set up correctly, before moving onto configuring your Console Access Rights.

## Group Priorities

When creating your Impero groups, it is important to help ensure your group priority is set correctly.

In order to gain an understanding of group priorities, right-click on one of your created groups, and select 'Properties'. Then, select the 'Group Settings' tab.



Group Properties (image)

The 'Group Settings' tab contains a number of settings that you can apply per group; every Impero group contains these same settings, for example 'Hide Desktop Shortcut' (Image 9). The 'Hide Desktop Shortcut' setting hides the 'Impero Console' desktop icon for all members of the selected group.

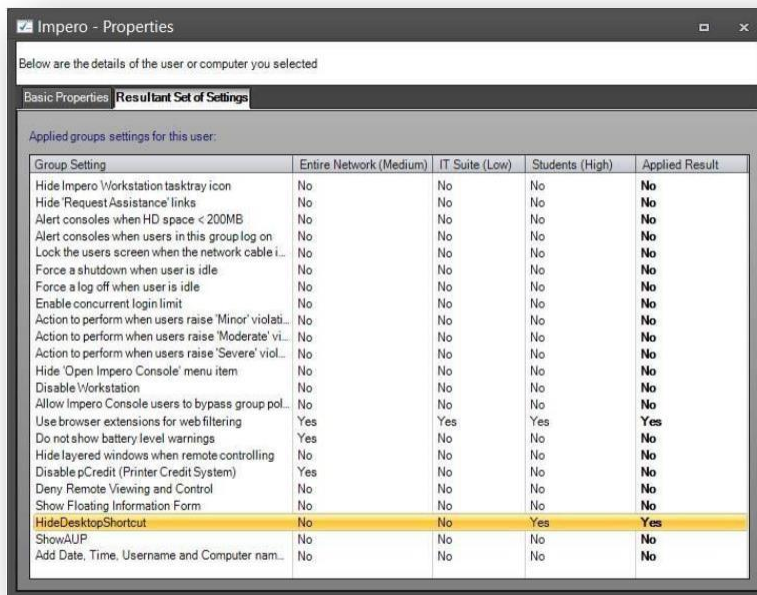
However, one user can easily belong to multiple groups; for example, a student user could belong to the 'Entire Network' group, the 'Students' user group, and





a classroom computer group all at one time. At this time, the user has the same setting applied to them three times. It is therefore the priority of those three groups that defines which setting applies to the user at that time.

To identify which setting applies to a user is to right-click the user in the Impero Console and select 'Properties'. Now, click the 'Resultant Set of Settings' tab.



Resultant Set of Settings (image)

The group with the highest priority that the user belongs to is the setting that applies to the user. It is therefore recommended that your user groups are set to higher priorities.

For example:

Group Name      Group Type      Group Priority

Entire Network      Low/Medium



Staff User High

Students User High

IT Suite Computer Low

Library Computer Low

Laptop Trolley Computer Low

With this configuration, your users should belong to only one high priority group, the setting applied to that user group applies to its members wherever they log in. For example, the 'Hide Desktop Shortcut' setting can be applied to the 'Students' user group so that student users never see the 'Impero Console' desktop icon, while 'Staff' users see the icon as they are in a separate group where the setting is not applied.

## User Privacy

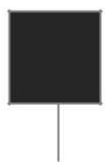
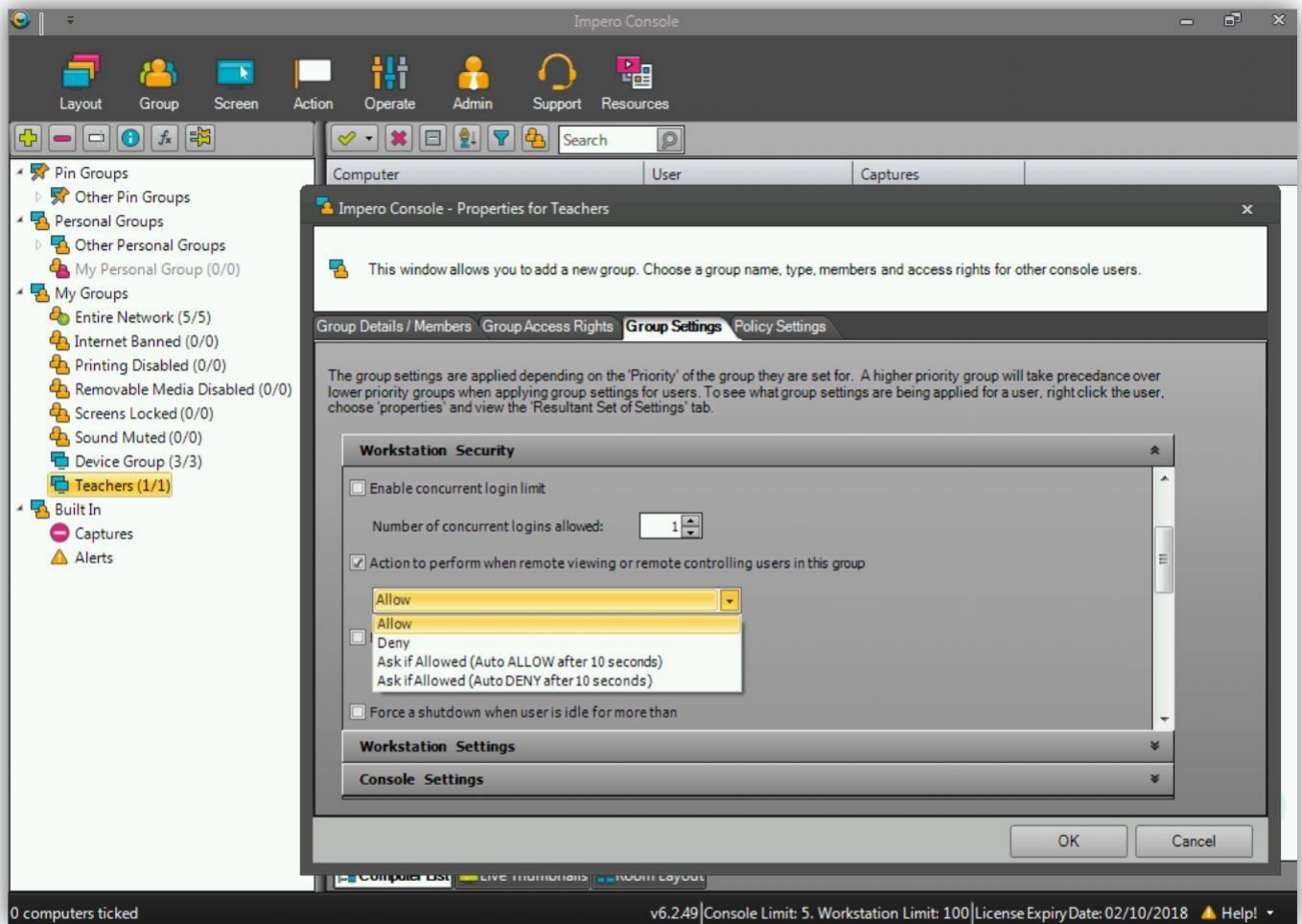
Impero by default gives Console enabled users access to view and control all user workstations. However, further configuration and security settings can be applied to users or devices so that their screens cannot be viewed or controlled.

To configure Impero so that staff members cannot view or control the screens of other staff members, it is necessary that you first put the Teachers and or the Teacher devices into a new group in the Impero Console (For example Teachers (user Group) or Teachers Devices (Device group)).



Ensure that this group has a higher priority than any other group that its members belong to (including the entire network).

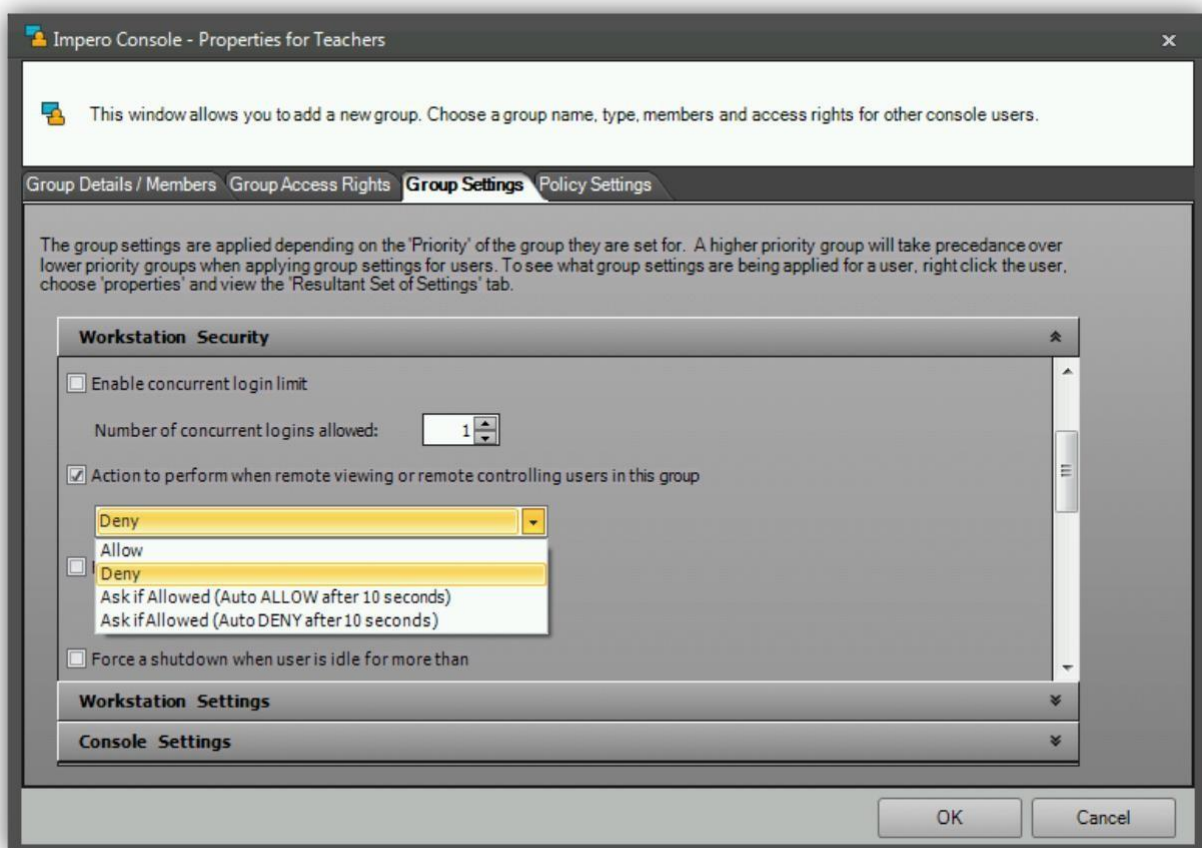
- > Next, right-click on the group and select “Properties”.
- > In the new window, select the “Group Settings” tab.
- > Locate and tick the option called “Action to perform when remote viewing or remote controlling users in this group”.



The following drop-down list gives you different options that can be applied to this group of users or devices.

- Allow – allow unlimited access to the screens of the users or devices within this group.
- Deny – deny all access to the screens of the users within this group.

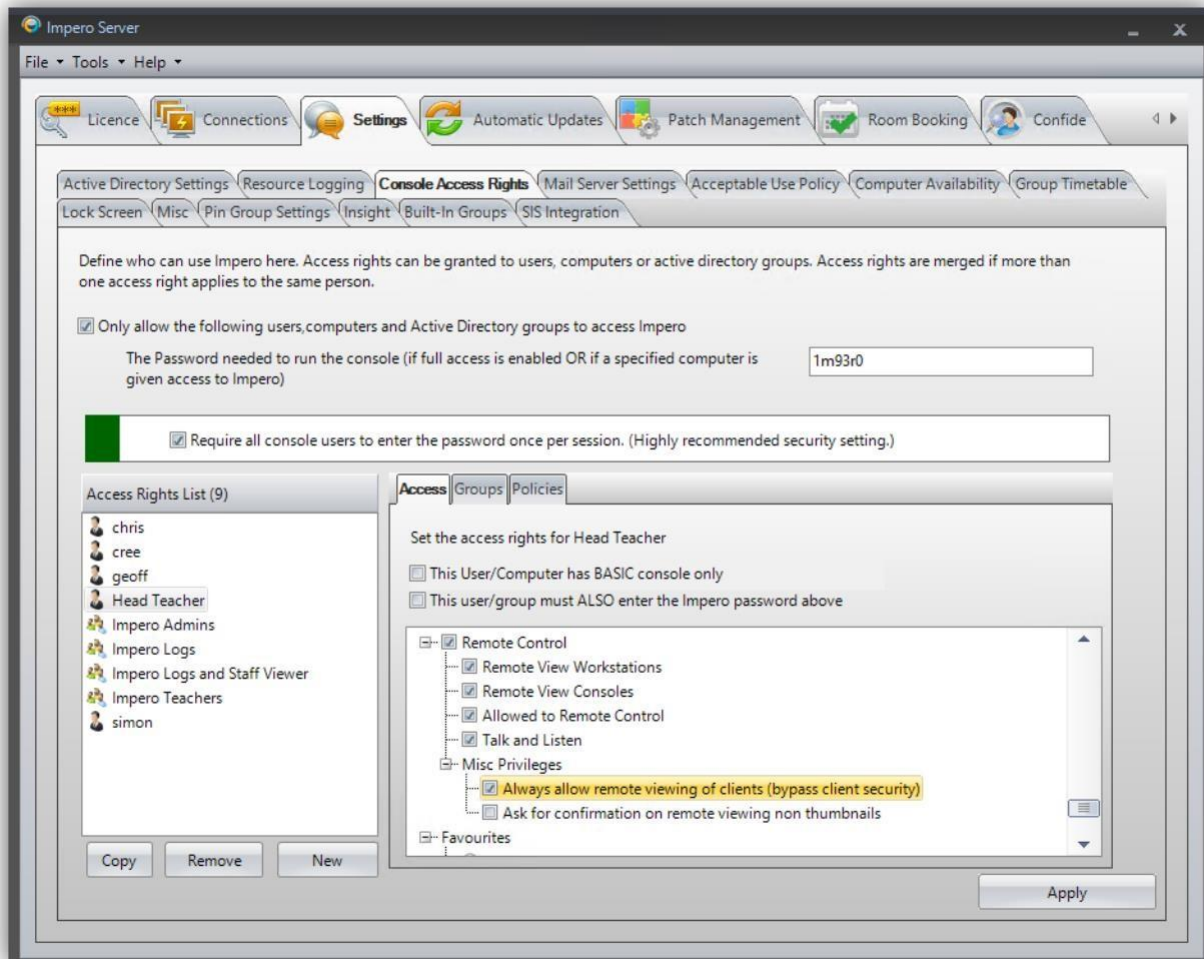
- Ask if Allowed (Auto Allow) – users in this group are prompted when someone tries to access their screen; if they do not accept or deny this access within ten seconds, they are automatically granted access.
- Ask if Allowed (Auto Deny) - users in this group are prompted when someone tries to access their screen; if they do not accept or deny this access within ten seconds, they are automatically denied access.



In this scenario we recommend using the 'Deny' option to help ensure under no circumstances the user cannot view a user's screen.

Should specific users, either network admin or Senior Leadership team members who require access to Teachers (as users or their devices) as part of their management role.

The following option can be added to a specific user from with the Impero Server application.



- > Launch the Impero Server Application
- > Select the 'Settings' tab
- > Select the 'Console Access Rights' Tab
- > Select the user from the 'Access Rights List' (alternatively add a new user)



- > Scroll down the 'Access' list with the tab to 'Remote Control' to 'Misc Privileges'
- > Select the 'Always allow remote viewing of clients (bypass client security)'

## Browser Extensions

In order for Impero online safety tools to fully function, each web browser that is used requires to have its relevant browser extension installed. Please see the following sections on extension deployment for Google Chrome, Microsoft Edge & Mozilla Firefox. If you use any other web browser, details on these extensions can be found within the Impero Console guide on the Impero knowledge base.

### Microsoft Edge (Non Chromium)

- Download extension from [this link](#)
- [Deployment Options](#) which are limited due to Microsoft, we advise moving to the new Chromium based Edge

### Google Chrome & Microsoft Edge Chromium

- Download extension from [this link](#)
- Force install and enable through [Group Policy](#) for Google Chrome
- Force install and enable through [Group Policy](#) for Microsoft Edge Chromium
- If running Sophos, add the [following exclusion](#)

### Mozilla Firefox Quantum

- Download extension from [this link](#)
- Force install and enable through [Group Policy](#).



## Anti-Virus Exclusions

It is recommended when using Impero Education Pro that you enter exclusions for any centrally managed anti-virus program, as these can often interfere with Impero.

The following files and folders should be excluded from all anti-virus scanning:

- C:\Program Files\Impero Solutions Ltd\
  - C:\Program Files\GFI\LanGuard 12 Agent\
    - C:\Program Files\Impero Solutions Ltd\Impero Client\imperoclient.exe
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoClientSVC.exe
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoConsoleShortcut.exe
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoControlLibrary.dll
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoGuardianSVC.exe
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoKInit.exe
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoServerBrowser.exe
    - Program Files\Impero Solutions Ltd\Impero Client\ImperoUtilities.exe
    - C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoWinlogonApplication.exe





- C:\Program Files\Impero Solutions Ltd\Impero Client\NRControlViewer.dll
- C:\Program Files\Impero Solutions Ltd\Impero Server\ImperoServer.exe
- C:\Program Files\Impero Solutions Ltd\Impero Server\ImperoServerSVC.exe
- C:\Program Files\GFI\LanGuard 12 Agent\httpd\bin\httpd.exe
- C:\Program Files\GFI\LanGuard 12 Agent\lnssatt.exe
- C:\Program Files\GFI\LanGuard 12 Agent\lnsscomm.exe
- C:\Program Files\GFI\LanGuard 12 Agent\mantle.exe
- C:\Program Files\GFI\LanGuard 12 Agent\update.exe
- C:\Program Files (x86)\Impero Solutions Ltd\
- C:\Program Files (x86)\GFI\LanGuard 12 Agent\
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\imperoclient.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoClientSVC.exe
- Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoConsoleShortcut.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoControlLibrary.dll
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoGuardianSVC.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoKInit.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoServerBrowser.exe



- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoUtilities.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoWinlogonApplication.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\NRControlViewer.dll
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Server\ImperoServer.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Server\ImperoServerSVC.exe
- C:\Program Files (x86)\GFI\LanGuard 12 Agent\httpd\bin\httpd.exe
- C:\Program Files (x86)\GFI\LanGuard 12 Agent\lnssatt.exe
- C:\Program Files (x86)\GFI\LanGuard 12 Agent\lnsscomm.exe
- C:\Program Files (x86)\GFI\LanGuard 12 Agent\mantle.exe
- C:\Program Files (x86)\GFI\LanGuard 12 Agent\update.exe
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ActiveImperoCredentialProvider\_32.dll
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ActiveImperoCredentialProvider\_64.dll
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoCredentialProvider\_32.dll
- C:\Program Files (x86)\Impero Solutions Ltd\Impero Client\ImperoCredentialProvider\_64.dll



For a full list of anti-virus exclusions and steps specific to certain vendors, please log in to the customer support portal, and view the 'Anti-Virus' section on the knowledge base.

## Training Materials

Impero can provide technical training (for network administrators), Teacher training, and Online Safety training (for DSLs), free of charge via separate webinars. Attending these sessions helps ensure that you benefit from maximum return on investment from the whole product suite.

To book a webinar, please visit:

- [Book training](#)

Workshop based training and bespoke onsite training / consultancy is also available (additional charges may apply) to enquire please contact your account manager or Impero support.

## User Guides

The link below takes users to a range of product guides which can be used to support the use of Impero Education Pro

<https://support.imperosoftware.com/support/solutions/44000482050>

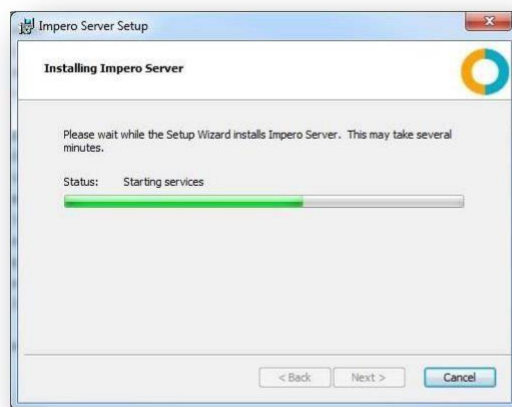
## Troubleshooting Server Install

Q: I cannot install the Impero Server, I get an error message saying I do not have administrative rights.

A: This is usually a .NET error. You are required to verify that the correct version of .NET is installed.

Q: My Impero Server just hangs during installation.

A: You are required to verify that the correct version of .NET is installed, or alternatively you could disable your Anti-Virus system and try re-installing your Impero Server.



Service does not start (image)

Q: I cannot register my Impero Server

A: Check your proxy setting details on the register window. You can be required to add the following websites access through your web filter; 'licencing.imperosoftware.com' and 'www.imperosoftware.com' or see the question further questions below.

Q: The Impero Server says that it is already registered.

A: If this is the first time you are registering the Impero Server then remove the tick from 'Can't Register Impero? Try registering Impero using your default web

browser' located under the Advanced Settings section and click the Register button.

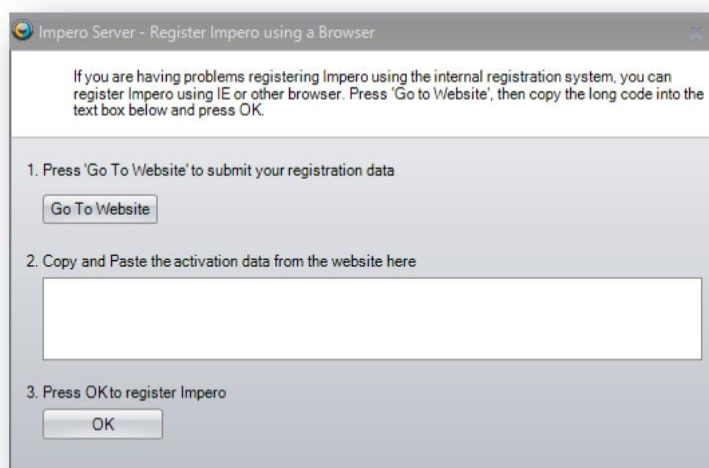
A: If you do not have internet access then click the back button and shorten your contact details. The amount of information that is being encrypted is too large for your web browser. Once you have shortened your contact details, click next and then register.

You should then see the encrypted key. You are then required to highlight this and copy and paste back into the Impero Server registration window as shown in Image xx.

Q: This server does not have access to the internet. How can I register Impero?

A: You are required to tick 'Can't Register Impero? Try registering Impero using your default web browser' located under the Advanced Settings section and click on the Register button.

A new window opens. Click on the 'Go To Website' button.



Register Impero using a browser (image)

This opens your default browser and fail as you do not have internet access, but it generates a long URL that you are required to copy and paste into a document, i.e., Notepad.



## URL Code (image)

1. Open the document on a PC that does have internet access.
2. Then copy and paste the content of the document into the address bar of your browser and press enter on your keyboard.
3. This contacts the Impero Licensing Server and generate a long code that are displayed in the browser window.
4. Select all of the code in the browser window and paste into a document.
5. Open the document on the Impero Server and copy and paste the code into Step 2.
6. Click on 'OK'.



## Troubleshooting Window Clients

Q: I am getting errors when trying to deploy the Client remotely

A: Please work through the troubleshooting steps below:

- Verify all firewalls are off during the remote deployment, both Anti-Virus and Windows Firewall.
- Make sure that you can open the C\$ share (e.g., `\\computername\C$`) as the Impero Remote Deploy requires this to be available for the remote deployment tool to work.
- Make sure the MSI is located on the machine you are deploying from, as the Impero Remote Deploy tool does not work from network locations.
- Try deploying to the IP Address of the machine rather than the computer name to verify your DNS is correct. If Impero installs using the IP Address of the machine, then you may have a DNS issue.
- Manually install the client on the PC. This gives you a better understanding of what may be happening on the PC. If the client installs but does not connect to the Impero Server, please see creating a DNS record.
- Check Event Viewer logs on the workstation.

Q: The Impero Client cannot connect to the Impero Server.

A: Please work through the troubleshooting steps below:



- Do you have VLAN's across your network? If so, and you use a DNS Server then you can create a DNS record that gives the clients the correct information in order to connect the Impero Server.
- The first time you install Impero Client it creates a local text file called `ServerIP.txt` if it can find the Impero Server ('C:\Program Files\Impero Solutions Ltd\ImperoClient\ServerIP.txt'). This stores the IP Address of your Impero Server. If this file is missing, you can create this text file manually and enter the IP Address of your Impero Server in it. You can be required to open '`services.msc`' and stop the 'Impero Client SVC' service and then restart it once you created the `ServerIP.txt` file.

Q: The Impero Client is saying 'Your Impero Server requires registering, or your trial period has expired'.

A: Please work through the troubleshooting steps below:

The Impero Server has become unregistered. The most probable cause would be that the hardware footprint of your server has changed by either adding new hardware or something dynamically assigned has changed. You are required to reactivate your account before you are able to re-register your server again.

Q: I can see the client in the Impero Console, but I am unable to remote control the machine.

A: Please work through the troubleshooting steps below:





Turn off Windows Firewall on both clients and test again. If this works, then you are required to verify you have allowed all Impero Firewall exceptions through your firewalls:

- C:\Program Files\Impero Solutions Ltd\Impero Client\imperoclient.exe
- C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoClientSVC.exe
- C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoControlLibrary.dll
- C:\Program Files\Impero Solutions Ltd\Impero Client\NRControlViewer.dll
- C:\Program Files\Impero Solutions Ltd\Impero Client\ImperoUtilities.exe

You are required to be able to ping both directions between the PCs. Impero uses the following ports:

- TCP/UDP Ports 30015 - Reserved for Impero Server
- TCP/UDP Ports 30016 - Reserved for Impero Server
- TCP/UDP Ports 30017 - Reserved for Impero Server
- TCP/UDP Ports 30018 - Reserved for Impero Server
- TCP/UDP Ports 30019 - Reserved for Impero Server
- TCP/UDP Ports 30020 - Reserved Proxy or Thumbnail view
- TCP/UDP Ports 30021 - 30521

**NOTE:** This example is based on seeing 500 thumbnail clients at once. The port numbers from 30021 to 30521 is based on how many thumbnails you can see at once and may be adjusted to fit your needs.



## Troubleshooting Apple Mac Clients

Q: The Mac icon is appearing; however, the client is not connecting to the Impero Server.

A: If, after you install the Mac client, the Impero icon appears in the task tray but the 'Server Name' under 'Properties' says 'Disconnected', this then means that it cannot find the Impero Server. The most likely cause of this is that the Impero Client cannot find the Impero Server via UDP Broadcast. This is often seen on networks where VLAN's are utilised. See the section below for 'How do I use a Fixed IP Address?'

Q: How do I display the Impero error logs?

A: Run the following command on a terminal session within the Mac client: `tail -1000 /var/log/ImperoClientSrv.log`.

In the error log output look for the following entry every 30 seconds:

```
09:48 DT-S-WS10-023com.imperosoftware.imperoclientsrv[54]:
```

```
CServerConnection::DoBroadCast
```

```
09:49 DT-S-WS10-023com.imperosoftware.imperoclientsrv[54]:
```

```
CServerConnection::DoBroadCast
```

```
09:49 DT-S-WS10-023com.imperosoftware.imperoclientsrv[54]:
```

```
CServerConnection::DoBroadCast
```

Q: How do I use a 'Fixed IP Address'?

A: This can be done in 2 ways:



1. Select the Impero Icon in the task tray > Properties > Settings.  
You can then select the 'Add' option and input the IP address of the Impero Server. Once entered it is then displayed in the sever address list.
2. The IP Address is stored in a text file in the following location – > Library > Application Support > ImperoClientSrv.

The file can be edited manually if required rather than being accessed through the Impero task tray icon.

Q: Internet blocking & logging is not working on the Mac.

A: Please check that the appropriate browser extension in installed:

### **Google Chrome**

The download link for the extension can be downloaded from the link provided by the support team.

This extension can be force installed and enabled through Group Policy.

### **Microsoft Edge**

The download link for the extension can be downloaded from the link provided by the support team.

This extension can be force installed and enabled through Group Policy.

### **Mozilla Firefox**

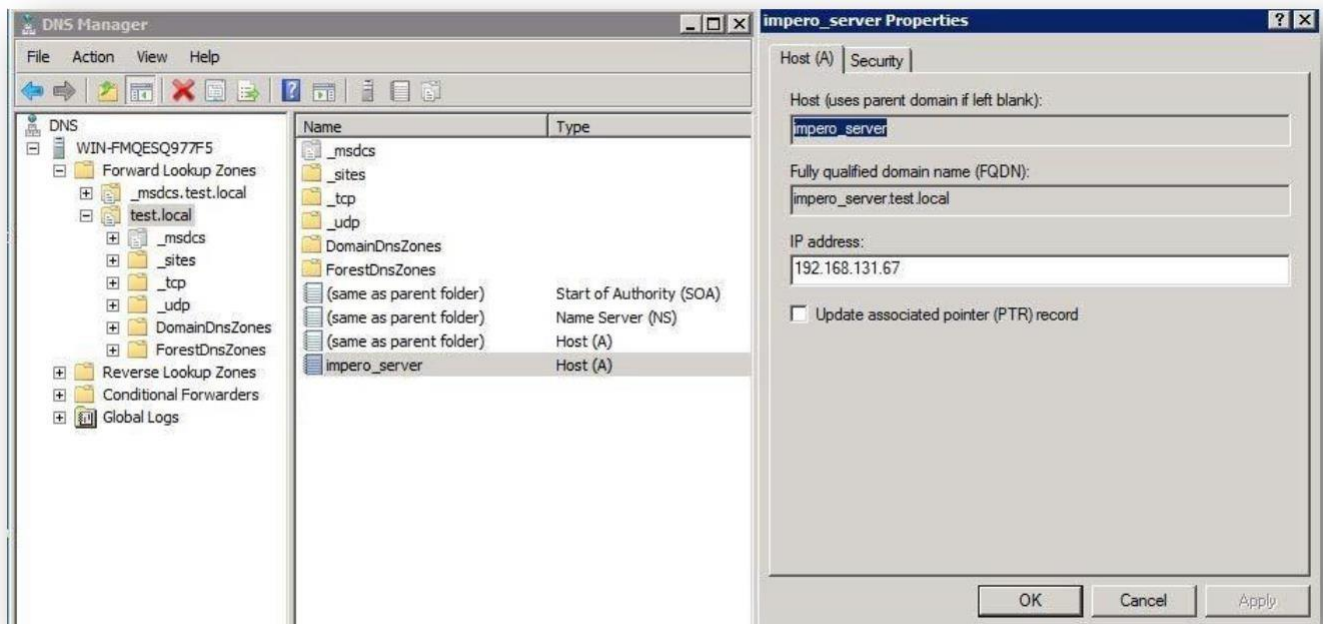
The download link for the extension can be downloaded from the link provided by the support team.

This extension can be force installed and enabled through Group Policy.

## DNS Record

You can create a DNS record to help ensure that Windows and mac Impero Clients can find the Impero Server, even if it is located on a different VLAN. In order to do so, please go through the following steps:

1. Open your DNS Manager.
2. Expand the 'Forward Lookup Zones'.
3. Locate your domain and select it.
4. Right-click and select 'New Host (A or AAAA)'.
5. Under 'Host', specify 'impero\_server'.
6. Under 'IP Address', enter the IP Address of your Impero Server.



DNS Manager (image)

**NOTE:** If this does not immediately resolve any issues you may be experiencing, you can be required to restart the affected computer, or run an 'ipconfig / flushdns' command in Command Prompt on the affected computer.



## Terminal Services & Virtual Desktop Environments

While you can install the Impero Server to a virtual server, it is important to bear in mind that the Impero Server should never be installed to a Terminal Services Server, and ideally not onto a Virtual desktop delivery server.

### Virtual Desktops

Install the Impero Client onto the golden/template image, as you would a normal application. This applies for Citrix XenDesktop and other VDI technologies such as NComputing and VMWare.

### Terminal Services (Remote Desktop Services)

To install the Impero Client, log onto the terminal server console as a member of the Domain Admins group and install Impero as you would any other software. Do not forget to put the Terminal Server into Install Mode. This methodology also applies for older versions of Citrix. Windows Terminal Server 2008 R2> TechNet Guide:

- [Install Programs on a Terminal Server](#)

VMware View Desktop visualization

Base template and a cloned desktop pool

Install the `ImperoClientSetup.msi` to the base image. If you want the name of the Thin Client to report back to the Impero Console, you are required to install VMware Tools.



## **Static Virtual Machine**

Install the ImperoClientSetup.msi to each static virtual machine in use.

Citrix Xen Desktop

Base template and a cloned desktop pool.

Install the ImperoClientSetup.msi to the base image. If you want the name of the Thin Client to report back to the Impero Console you are required to install Citrix Tools.

## **Static Virtual Machine**

Install the ImperoClientSetup.msi to each static virtual machine in use.

Citrix Xen App

## **For Published Desktops**

Deploy the Impero Client to the XenApp server using the Citrix recommended install practices.

## **For Application Publishing**

This is currently an unsupported configuration for Impero. It has not been tested and is therefore not currently supported.

## **NComputing**

Install the ImperoClientSetup.msi on the NComputing host computer.

**NOTE:** Please refer to vendor's documentation for official procedures, as those above are intended for demonstration purposes only.



## Network Connections

This section explains all network communications that are performed by your Impero Education Pro Server and Clients, which are covered by four aspects:

- Impero Server outbound connections
- Impero Client <-> Impero Server connections
- Impero Client <-> Impero Client connections (peer-to-peer)
- Impero Client loopback connections

In general, it is recommended to allow Impero Client to Impero Client communication, as well as Impero Client to Impero Server communication in both directions on the port range 30015 - 30221 (TCP/UDP).

The “ImperoClientSetupXXXX.msi” and “ImperoServerSetupXXXX.msi” install packages both automatically configure your Windows Firewall upon installation to allow the necessary connections. However, if you use either the 'Talk and Listen' feature within the Impero Console, or the 'Patch Management' module, then there are further Firewall rules required.

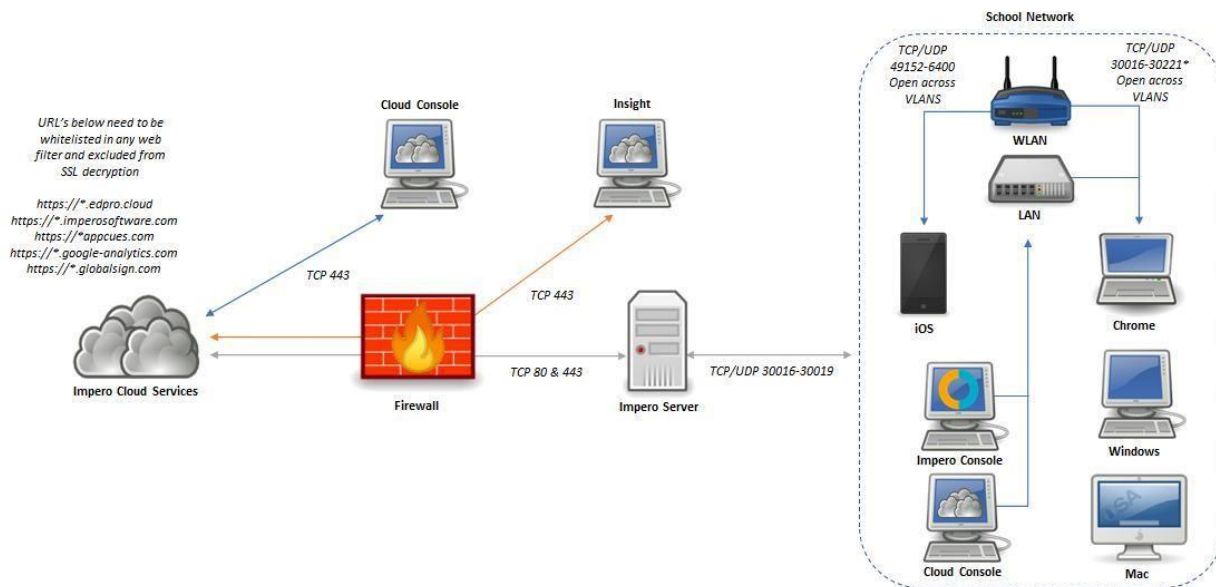
**NOTE:** XXXX reflects the version number of Impero that is being installed.

As well as adding any Firewall rules, it is also recommended to have anti-virus exclusions entered if you have a centrally managed anti-virus solution.

The following diagram provides a generic overview of the types of connection required by your Impero Server and Clients.

## Network Port Schema – On Premise Server

*\*NB: Based on 200 Client machines. Increase last port number if more client machines connect*



Network Connect (image)

Please see the following sections for a detailed overview of each connection type.

## Impero Server Outbound

The Impero Server only 'dials out' on standard web ports 443 (TCP). There is an automatic 'Web Check' every twenty minutes, which is the process your Impero Server performs to poll Impero's licensing servers to check for any license changes (i.e., new versions released, more client licenses purchased). This process also anonymously carries some basic usage statistics to help us understand how Impero is being used.

This process is performed outbound through TCP port 443 (https) to `licencing.imperosoftware.com`. If a new version has been released to your





account, setup files are automatically downloaded from our domain through port 443 (https) from `downloadservice.azurewebsites.net`.

Please allow outbound connections from your Impero Server through port 443 to the following location: `*.imperosoftware.com`

For users of the Impero Education Pro Insight module:

- Impero requires an outbound connection on port 443 (https) to `databroker.imperosoftware.com`

For users of our SIS Integration (Clever)

- Impero requires an outbound connection on port 443 (https) to `api.clever.com`

If you are also using the Impero Patch Management module, there are further outbound connections that your Impero Server is required to perform. These connections are to the following sites through port 443:

- `*.software.gfi.com/lupdate/`
- `*.download.microsoft.com`
- `*.windowsupdate.com`
- `*.update.microsoft.com`
- `*.lupdate.gfi.com`

Note that further connections may be required to third party sites in order to download their patches.

Impero and GFI Patch Management processes all run as the Windows 'SYSTEM' user during normal operation. As such, if you have a web filter that prevents 'anonymous' outbound connections (i.e., prevents non-authenticated



processes from dialling out), please consider whitelisting your Impero Server IP address for Internet access.

For further information, please see our Patch Management guide.

The Impero Server does not require to receive any incoming connections from outside your Local Area Network.

## Impero Client to Impero Server

Impero Client <-> Impero Server

Your Impero Clients require to connect to an Impero Server in order to be able to synchronise any Impero groups, policies and settings. This connection to the Impero Server is also required in order for the client to appear 'online' in the Impero Console, and to be able to launch the Console.

This connection carries the user activity history (applications used, websites visited etc) back to the Impero Server in order to be stored in the central 'Log Viewer' database, which is stored and managed on the Impero Server.

If a windows client loses its connection to the Impero Server, it continues to locally apply the last set of policies it received from the Impero Server prior to losing connection. The clients also logs user activity while offline, and automatically synchronise with the Impero Server when reconnected.

The Impero Server listens for incoming connections to perform the above from all clients on TCP port 30016, which is the main client connection.



The 'Talk and Listen' feature connections also pass via the Impero Server. The server listens for these connections on TCP port 30017, which is the client 'Talk and Listen' audio connection.

Please note that if you have Windows Firewall enabled on the Impero Server machine, a user added 'Allow' exception is required. Please whitelist the 'ImperoAudioServer.exe' process from the Impero Server folder or allow incoming connections on port 30017.

**Tip:** If you wish to globally disable the 'Talk and Listen' feature, you can do so by blocking this communication.

#### Patch Management Client <-> Impero Server

For any Patch Management client to complete the 'Updating Definitions' process during install and update, the GFI client requires to connect to the Impero Server through port 1070 as well as 30015.

Please note that if you have Windows Firewall enabled on the Impero Server machine, a user added 'Allow' exception is required. Please whitelist the 'httpd.exe' process from the 'C:\Program Files (x86)\GFI\Languard 12 Agent\Httpd\bin\' folder, or allow incoming connections on port 1070.

#### Computer Availability / Room Booking

The Impero Server service hosts an optional basic http server for these features on port 8181. The port for these features can be changed in the Impero Server.

#### **Impero Server auto discovery**

The Impero Server listens for UDP broadcast packets on port 30016.



If the server sees an auto discovery UDP broadcast from a client, it then responds to the client with a unicast UDP message to identify itself. Please note that if an Impero Client has a 'ServerIPFixed.txt' driven connection, it does not attempt auto discovery. If you have multiple Impero Servers running, it is recommended to have the 'ServerIPFixed.txt' file in place to direct the connection to a specific server.

The Impero Console can only see clients connected to the same Impero Server as itself.

All Impero Clients that do not have a 'ServerIPFixed.txt' file (and Chromebook clients) attempts to resolve the following hostnames in DNS in order to locate an Impero Server to connect to:

- `IMPERO_SERVER` (For non-RFC compliant DNS, i.e., Windows Servers)
- `IMPERO-SERVER` (For RFC compliant DNS, i.e., most non-Windows based DNS)

## Impero Client to Impero Client

The Impero Client to Impero Client peer-to-peer connection is necessary for a number of features within the Impero Console:

- Remote viewing screens
- Remote control of machines
- Broadcast screens
- Send/Collect file tools
- Various other miscellaneous features



All Impero clients require the following port range to be open for communication between each other, in both directions:

30020 - 30221 (TCP/UDP)

If you have more than two hundred Impero client workstations, this port range increases based on maximum amount of client thumbnail connections you expect to see, i.e., for 1000 clients the port range would be 30020 - 31020.

## Impero Client Loopback

Impero Education Pro has two optional web filtering/logging features that you are able to use. Both features operate locally on the client by use of loopback connections (through 127.0.0.1). You should not be required to configure any Firewall rules for these connections.

## Impero browser extensions

You have the option to install browser extensions to Chrome, Firefox and Edge web browsers to enable web filtering and logging for these browsers. The Impero client listens on TCP port 30019 to communicate with these extensions on the same device.



## Impero Server Backups

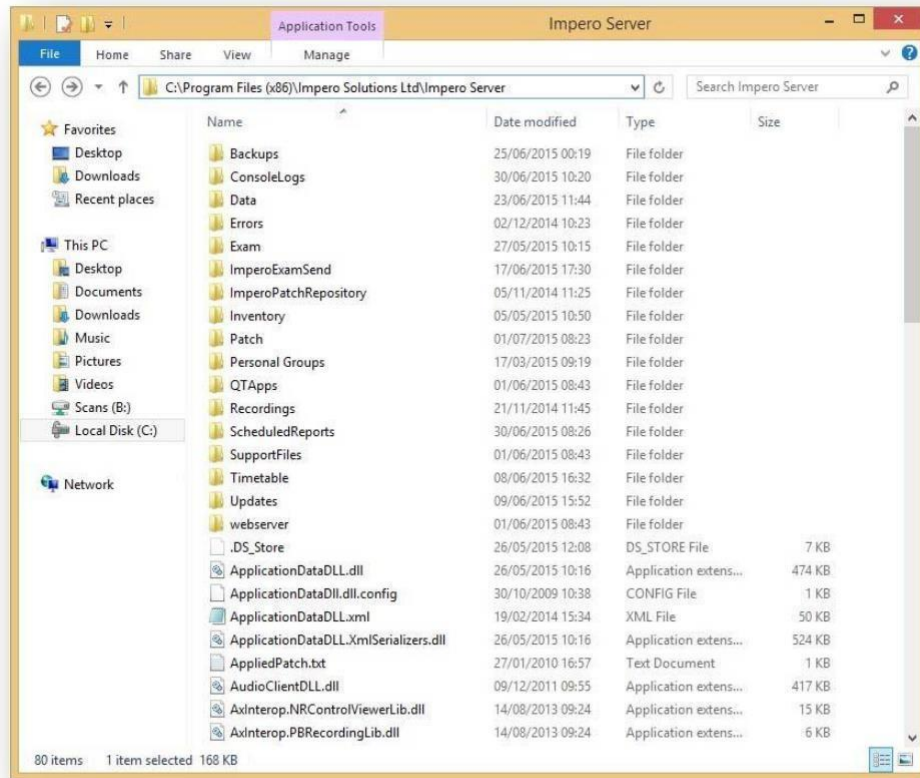
There are a number of essential files that are created and stored on your Impero Server, which are worth considering when devising any backup plans.

These files are primarily held in the Impero Server install directory. During the installation process you are prompted to select an install directory, by default the location is:

```
64 bit Windows - 'C:\Program Files (x86)\Impero Solutions  
Ltd\Impero Server\'
```

```
32 bit Windows - 'C:\Program Files\Impero Solutions  
Ltd\Impero Server\'
```

There are a number of files and folders that you see within the install directory location.



Impero Server Directory (image)

All of the folders displayed here are important in the way that Impero Education Pro functions, however there are varying degrees of importance with these folders when it comes to adding them to your backup routines.

The following folders are particularly important when adding to your backup routines:

## Backups

Impero stores a number of XML files in the 'Data' folder which contain information such as your groups, policies, Console.



Access Rights etc. These XML files are automatically backed up every night, just past midnight, to this 'Backups' folder. It is important to keep a number of these backup folders should you ever require restoring settings from a previous day.

As the backup folders are stored indefinitely, this is a good place to carry out occasional maintenance by deleting older backups from time to time.

## **Data**

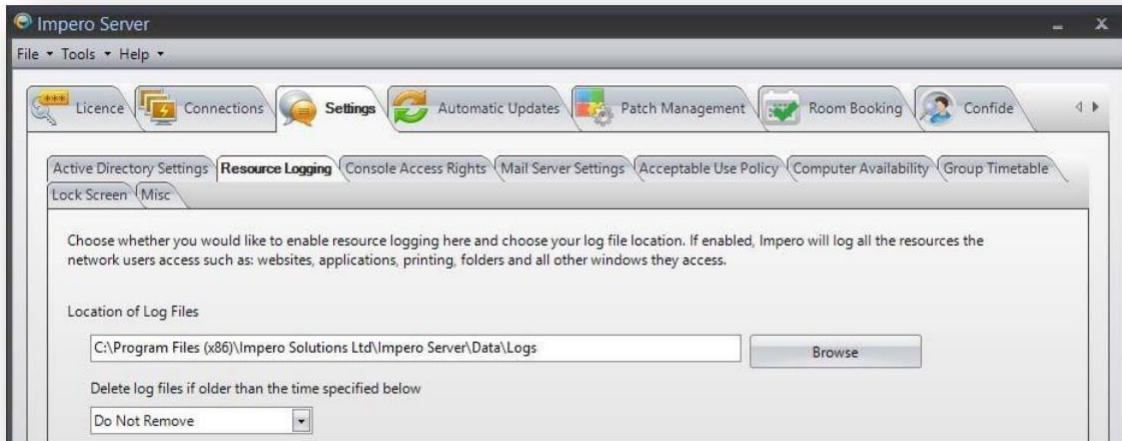
The 'Data' folder is the most essential folder within the Impero Server directory. This folder contains the live XML files containing all your Impero settings (groups, policies, Console Access Rights etc), and is automatically backed up on a nightly basis by Impero to the 'Backups' folder.

However, you may also see a sub-folder called 'Logs'. This 'Logs' folder contains all client activity logs, violation history and Power Management data. This 'Logs' folder can become very large and is not a part of the automatic nightly backup carried out by Impero; it is therefore very important to include this folder within any backup routine.

As this 'Logs' folder can grow quite large, it may be a good idea to store the log files to a separate partition to prevent your Windows partition from filling up. Please note that it is necessary that the logs are stored to a local drive.

If you wish to edit the location of these log files, you can do so by launching your Impero Server application, and selecting the 'Settings' tab followed by 'Resource Logging'. If you do not see the 'Logs' sub-folder within the 'Data' folder, please verify this setting to see where your logs are being stored.





## Location of Log Files (image)

Please be aware that there is a high level of disk activity on these logs during working hours, regardless of the location you have chosen to store them. Impero also carries out various backup and archive processes shortly after midnight on this location. For this reason, if you are going to add the 'Logs' folder to your backup routine, it would be best practice to carry out this backup when there is little traffic on the network, i.e., around 2am.

## Exam

If your staff use the 'Exam Module' feature within the Impero Console, all associated exam data is held within this folder.

## Patch

If you use the additional 'Patch Management' module within Impero, the database holding all patch information and configuration is contained within this folder. This folder is highly important to consider adding to your backup routines if you use the Patch Management module.



The next set of folders can also be added to your backup routines if you feel they are required for your Impero configuration, however they are not vital to the day-to-day running of Impero:

### **ConsoleLogs**

This folder contains logs of Impero Console user activity, i.e., all actions carried out by users that have used the Impero Console. The logs within this folder are kept for thirty days before being automatically purged.

### **Recordings**

This folder contains all Impero client screen recordings, both manual and automatically captured recordings. If you use the screen recording feature to capture evidence of violations, or through Impero's e-safety keyword libraries, then it may be worthwhile to backup this folder to ensure this evidence is retained.

### **ScheduledReports**

This folder contains any CSV files that are generated by the 'Scheduled Reports' feature that can be configured through the Log Viewer application to create a scheduled automatic report, i.e., 'top violating users of the day'.

The remainder of folders that appear in this directory are non-essential when considering backup routines:

### **Errors**

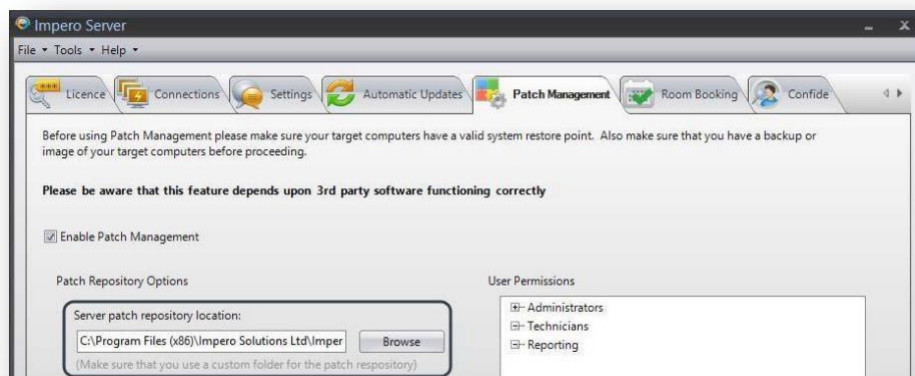
This folder contains any error files created by Impero for troubleshooting purposes.

## ImperoExamSend

This folder contains files used by the 'Exam Module' feature when an exam is sent to client machines.

## ImperoPatchRepository

This is the default folder that the Patch Management module downloads its patches to; however, this location can be, or may have been, modified from the Impero Server > Patch Management tab.



Patch Repository Location (image)

This folder is non-essential as any files required by Patch Management can be re-downloaded.

## Inventory

This folder holds all XML files in relation to client hardware and software Inventory data. The inventory is created the first time a client connects to the server. You also have the option to enable a policy to update the inventory.

## QTApps

This folder is used during the server install process and may now appear empty.



## **SupportFiles**

This folder contains various application binary files.

## **Updates**

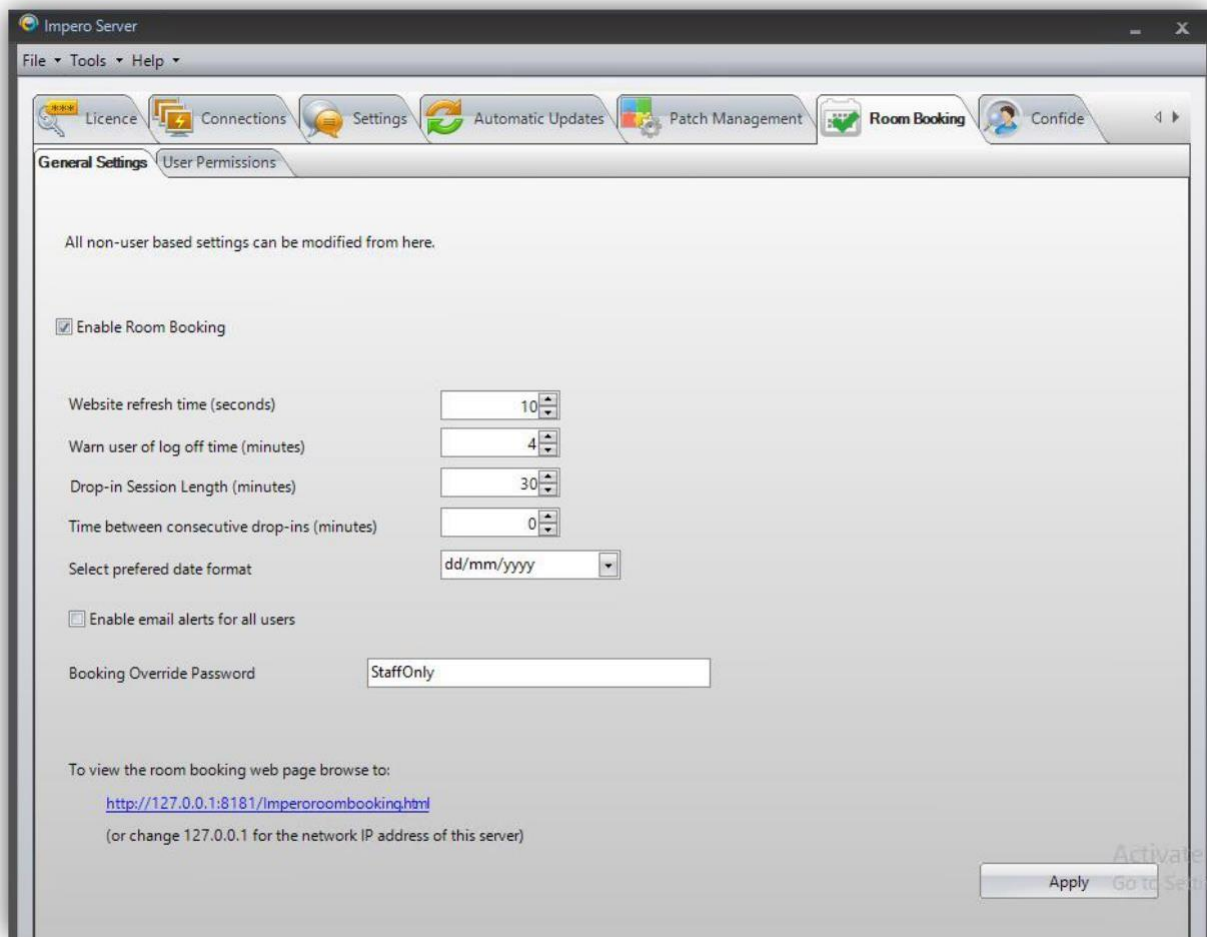
This folder contains various install files for Impero Server and clients. For every version you are and have been permitted to run, install files are automatically downloaded to this location. These files can also be downloaded from the Impero website upon request.

## **Webserver**

This folder contains files required by the built-in web server to run the 'Room Booking' and 'Computer Availability' features. This folder is not required for backups, however, if you do use the 'Room Booking' feature, all booking information is held in a CSV file that you may wish to backup to preserve information on bookings.

The location of this CSV file is:

```
C:\ProgramData\Impero\EducationPro\roombooking.dat.
```



## Room Booking Options (image)

- info@imperosoftware.com
- www.imperosoftware.co.uk
- www.imperosoftware.com
- +44 (0) 1509 611341 UK
- 877-883-4370 USA