Critical Links

C3 MICRO-CLOUD ADMININSTRATOR MANUAL VERSION 5.1

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1. Introduction

The Critical Links **C3 Micro-Cloud** is a self-contained, cloud-enabled e-Learning platform that can dramatically simplify the delivery of digitized content to schools. Everywhere. Irrespective of the constraints on internet connectivity and power, availability of technically skilled personnel, school location (urban or rural), or the specific student devices.

This document will help you fully utilize your **C3 Micro-Cloud** device. It includes detailed instructions on how to do the initial setup, create content and users, create Lessons and Classes and configure all the network components of your **C3 Micro-Cloud.**

The **C3 Micro-Cloud** might have reached you in one of several models. You need to check the **Quick Start Guide** that comes with each **C3 Micro-Cloud** to see how to quickly get it up to speed and ready to be used.

Default settings and passwords may have been changed by the Project Manager. If this has occurred, please contact him.

2. C3 Micro-Cloud Activation

By default, your **C3 Micro-Cloud** comes pre-activated and ready to use. It should also be pre-loaded with a set of predefined content that is suitable for your geographical area. This means you don't need to activate the device when you first receive it.

However, if you need to restore the **C3 Micro-Cloud** to its original state, you will have to activate it again.

If you need to restore your **C3 Micro-Cloud**, please send an email to **support@critical-links.com**, stating that you are restoring your **C3 Micro-Cloud** and that you need your License ID deactivated. Your **C3 Micro-Cloud** will not accept your License ID unless you complete this step.

*When accessing a **C3 Micro-Cloud** that has been restored to its initial state, you will be greeted with an activation wizard upon first access to the initial interface.*

2.1. Step 1: Start

The Activation Wizard consists of 4 or 5 steps, depending on whether your **C3 Micro-Cloud** has WiFi enabled or not.

The first step provides basic information about the Wizard and indicates where you can physically find the License ID.

Figure 1: Wizard Start

2.2. Step 2: Test Internet Access

In this step, the **C3 Micro-Cloud** performs three different tests to ensure that you can proceed with the device activation.

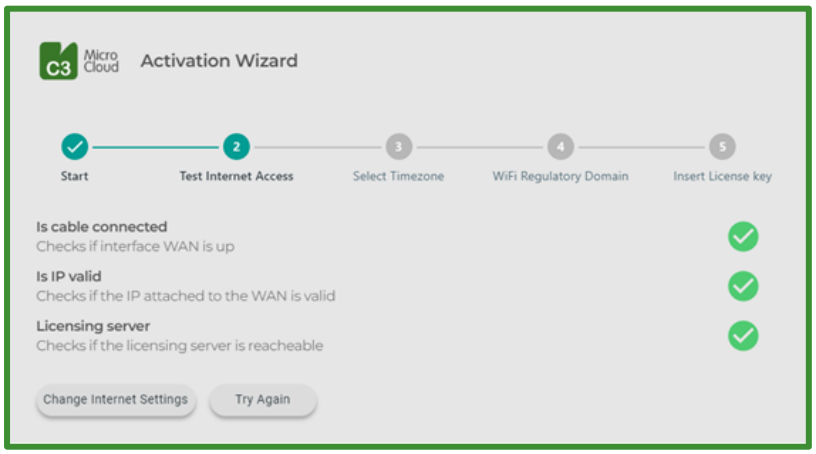


Figure 2: Test Internet Access

If any of the tests fail, a message will indicate it. In the case of an invalid IP address, you will have the opportunity to correct it by either connecting the device to a valid network or configuring the WAN settings by clicking the **Change Internet Settings** button.

If the Licensing Server is not reachable, you should send an email to **support@critical-links.com** with your License ID and a note stating that you are unable to reach the Licensing Server.

2.3. Step 3: Select Timezone

This step allows you to assign a timezone to your **C3 Micro-Cloud**. It is very important to select the correct timezone, as this cannot be changed after the device is activated. This ensures that the date and time are displayed correctly according to your device's location.

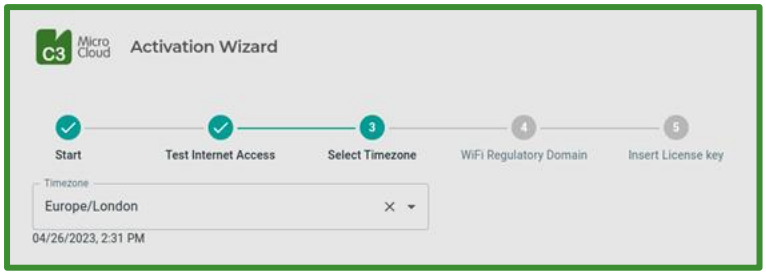


Figure 3: Timezone

2.4. Step 4: WiFi Regulatory Domain (For WiFi enabled devices)

Like the timezone, selecting the correct country ensures that the WiFi operation parameters are optimal for your location. Here, you should select the country where this unit will be operating.

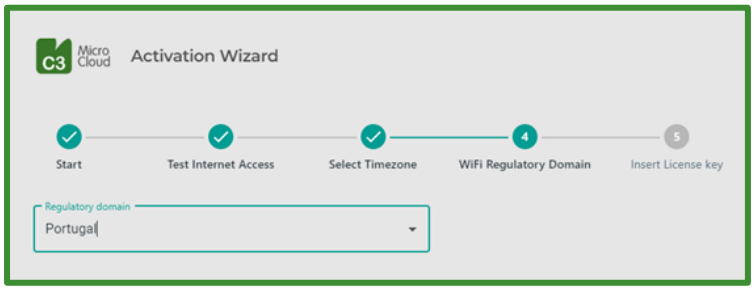


Figure 4: WIFI Reg Domain

2.5. Step 4: Insert License ID

In this final step, all that is left is to insert the License ID. Once this operation is successfully completed, your device will be fully activated and ready to use.

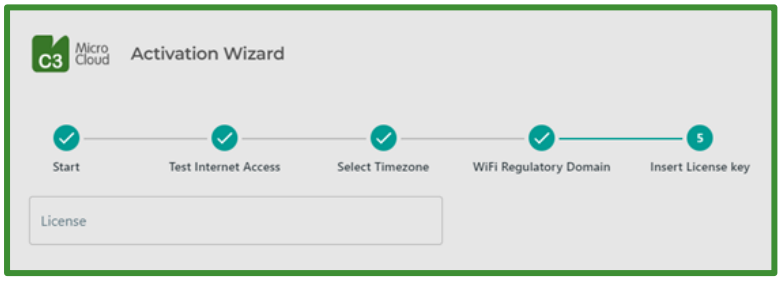


Figure 5: Licence Key

You can now start using your device and take full advantage of all its features.

3. C3 Micro-Cloud Profiles

In the **C3 Micro-Cloud,** there are four types of profiles, each with different levels of access. Everyone can view the explanatory documentation for the **C3 Micro-Cloud**, but each will see only the information relevant to their profile:

1. **Administrator**: Has full control over the **C3 Micro-Cloud**, except for Applications, which can only be viewed;
2. **Teacher**: Has partial control over the **C3 Micro-Cloud** configuration, including: Dashboard, LMS Settings, Content, Learning Path, Classes, Apps (view only), and Analytics;
3. **Student**: Can only view Content, Learning Path, Classes, and Apps assigned to them;
4. **Guest**: If a person accesses the **C3 Micro-Cloud** without logging in, they will only be able to view public content and applications.

4. C3 Micro-Cloud Landing Pages

The landing page is the first page a user sees when accessing the **C3 Micro-Cloud**. Initially, a guest landing page is displayed when a user first arrives at the device. After signing in, the landing page corresponding to the user's profile will be shown.

The most commonly used landing pages are for the student, teacher, and administrator profiles. Below is an example of a landing page for a non-signed-in user (Guest).

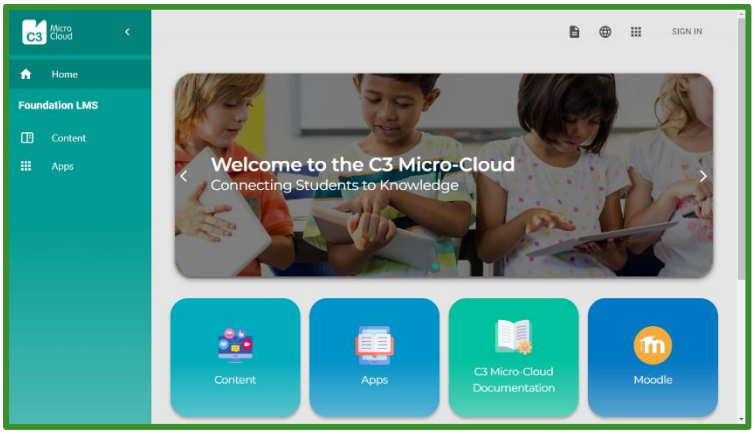


Figure 6: Landing Page User Guest

4.1 Landing Page Customization

The landing page for each user profile can only be customized by the **C3 Micro-Cloud** administrator. Customization mode is activated by clicking the settings icon in the upper-right corner of the administrator's screen.

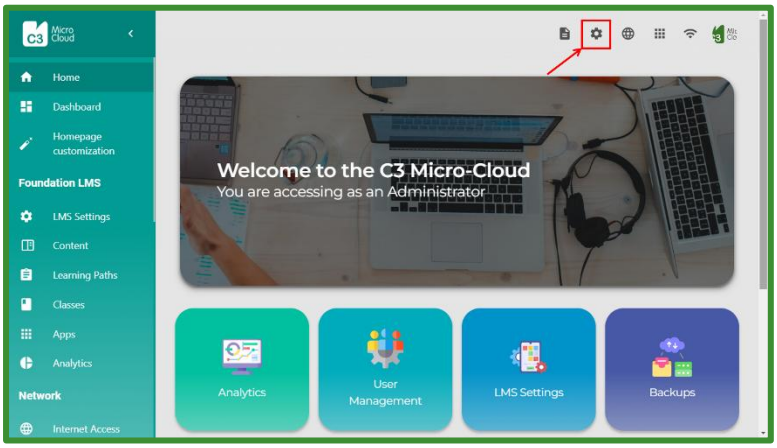


Figure 7: Settings Icon

Once this is done, the following will be enabled:

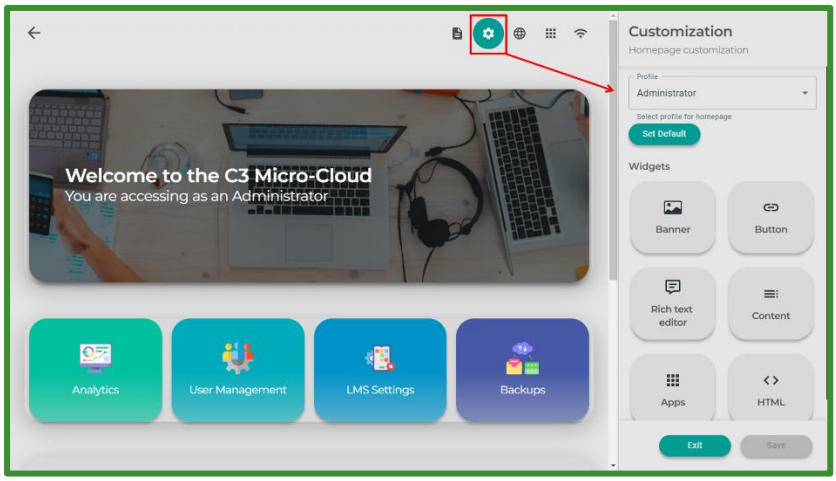


Figure 8: Landing Page Customization Active

Clicking on the **Set Default** button and confirming this procedure will remove all customizations and restore the factory default landing page.

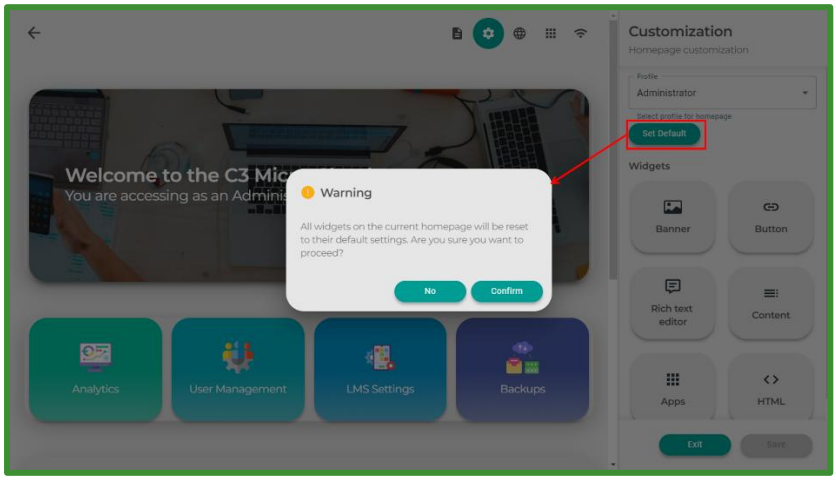


Figure 9: Landing Page Warning

This action will only be performed for the user profile currently selected in the profile drop-down menu.

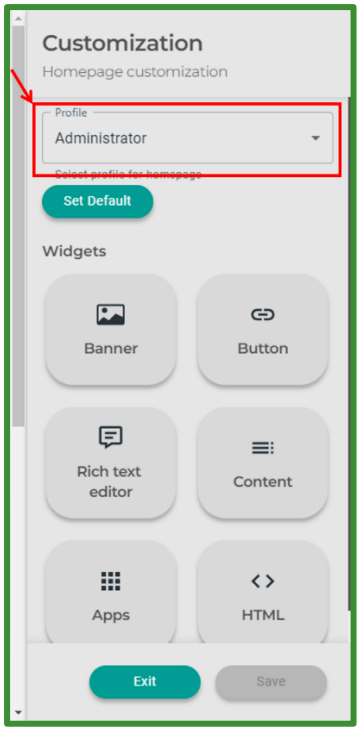


Figure 10: Landing Page Profile Customization

Customization of a user profile landing page can begin by modifying an existing factory default landing page or starting with a clean page by completely erasing the current one.

4.2. Sections and Widgets

Each section of the landing page is composed of one or more widgets. When in customization mode, hovering the mouse over a section will display two sets of editing icons:

1. At the top of the section, five small icons (add, edit, delete, and move section) allow you to change the overall characteristics and position of the current section.

Figure 11: Landing Page Top Section Edition

2. Inside the section, in the upper-right corner, two small icons (edit and delete widget) allow you to change the content within this specific section.

Figure 12: Landing Page Upper Right Corner Edition

At the bottom of the screen, after all sections, an empty section with a + icon allows you to create a new section. By default, a new section is created with a height of 300 pixels and one column. The section height can be adjusted, and the number of columns can be increased up to 4.

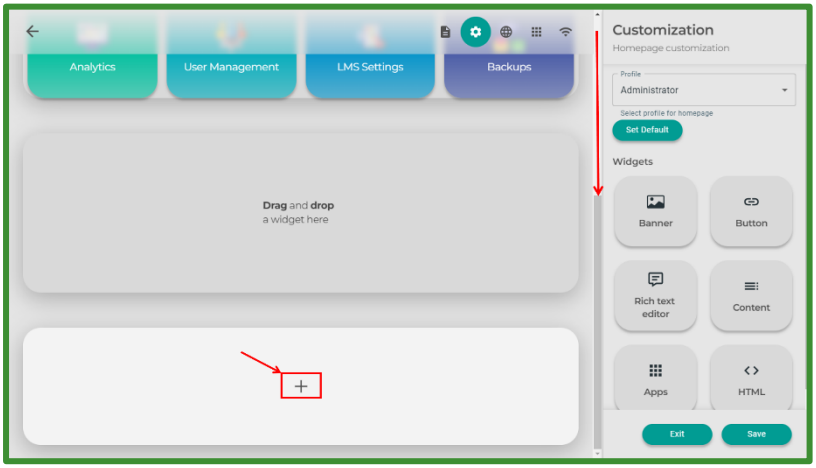


Figure 13: Landing Page New Section Creation

A widget is added to a section (or a column of a section) by simply dragging and dropping the required widget into the section.

Note: After completing the changes in a section, click the **Apply** button in the lower-right corner of the page to save the changes.

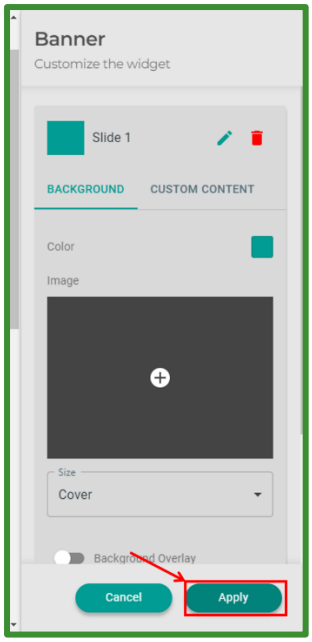


Figure 14: Landing Page Apply Button

If, for any reason, the user navigates away from the page, a warning about unsaved changes will be displayed.

4.3 Banner

The banner widget consists of one or more slides that span the entire width of the content screen.

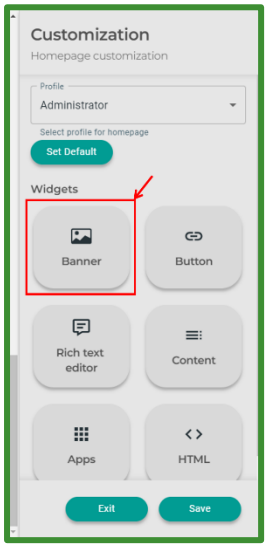


Figure 15: Landing Page Banner

When a banner widget is dropped into a section, a default color will be displayed:

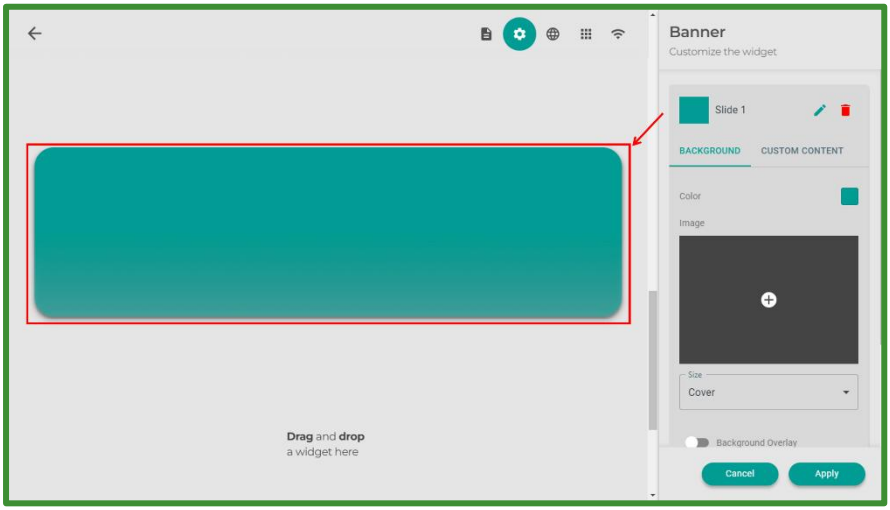


Figure 16: Landing Page Banner Section Creation

There is no limit to the number of slides that can be added to a banner. When more than one slide is configured, a timer is set to determine how long each slide will be displayed (Autoplay speed).

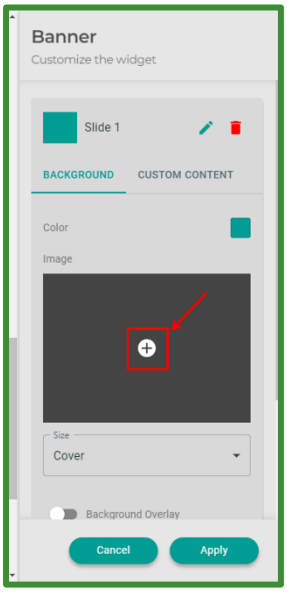


Figure 17: Landing Page Banner Image

After dropping the widget, there is an option to customize it in two ways:

1. Add an image and change the color and transparency of the widget.

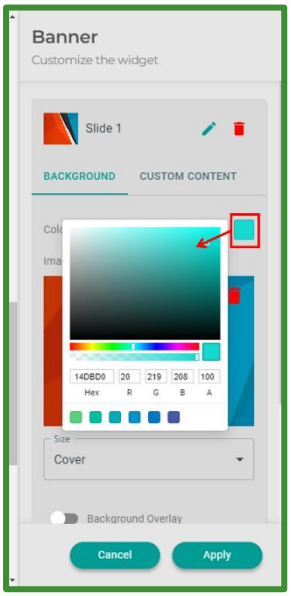


Figure 18: Landing Page Banner Color Customization

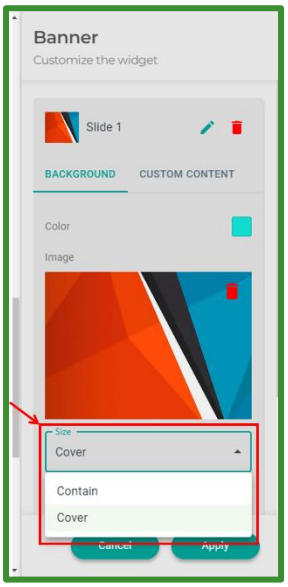


Figure 19: Landing Page Banner Size Options

The image can then be set as a cover (shown above). In this case, it will stretch across the entire width of the page. Alternatively, the image can be contained, where it will be fully displayed within the banner space.

2. Use the Custom Content tab to add a description and/or a button to the banner. The button will redirect the user to a predefined area of the **C3 Micro-Cloud**, or to a specific internal or external URL.

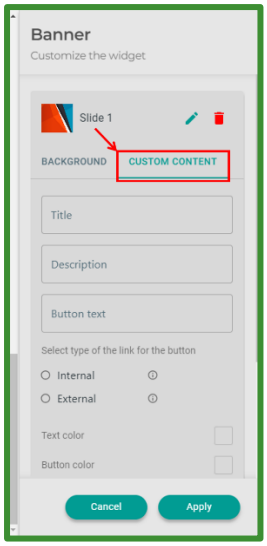


Figure 20: Landing Page Banner Custom Content

The description text and button colors can be defined independently. Their position in the banner (left, center, or right) can also be set here.

4.4. Button

The button widget is similar to the custom content in a banner, as shown above.

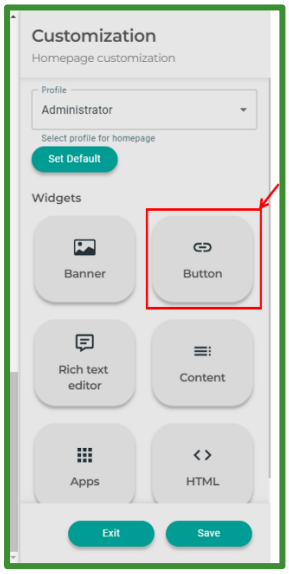


Figure 21: Landing Page Button

It is possible to define the button text, color, or even add a thumbnail for the button by simply clicking on the **+** icon as indicated.

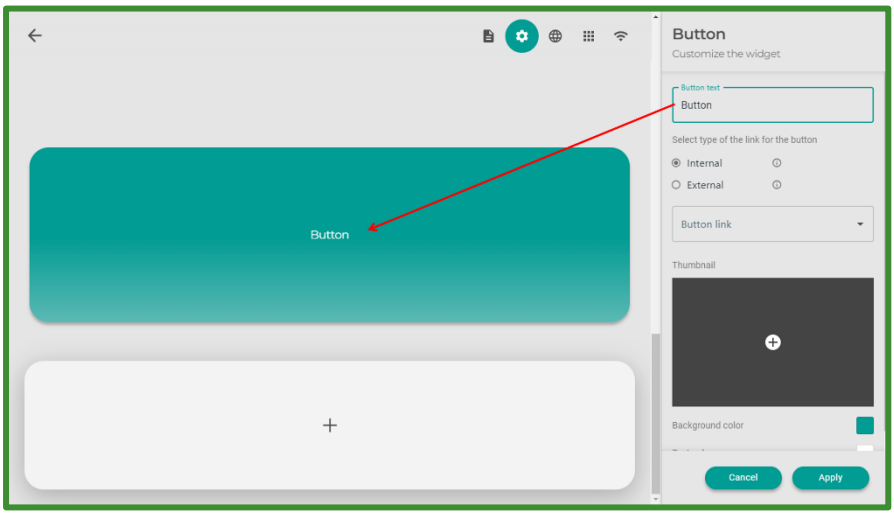


Figure 22: Landing Page Button Section Creation

Additionally, it's also possible to define the action that occurs when the button is pressed.

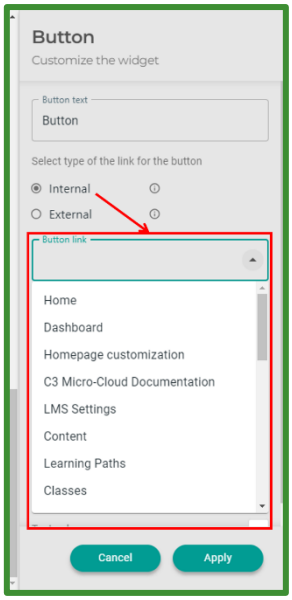


Figure 23: Landing Page Internet Button Link

In the case of an internal link, the user can specify which **C3 Micro-Cloud** location the button should direct to.

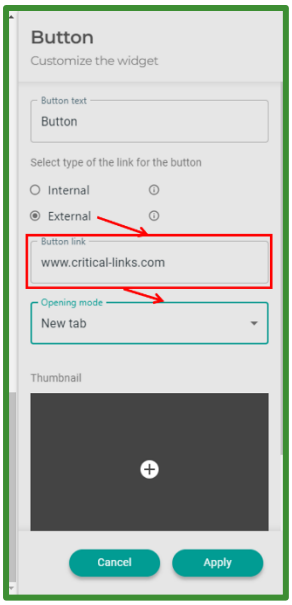


Figure 24: Landing Page External Button Link

In the case of an external URL, there is an option to open it in the same or in a new tab.

If more buttons need to be added to the current section, new columns will need to be added. To do this, simply click on the **Edit Section** option and enter the required number of columns.

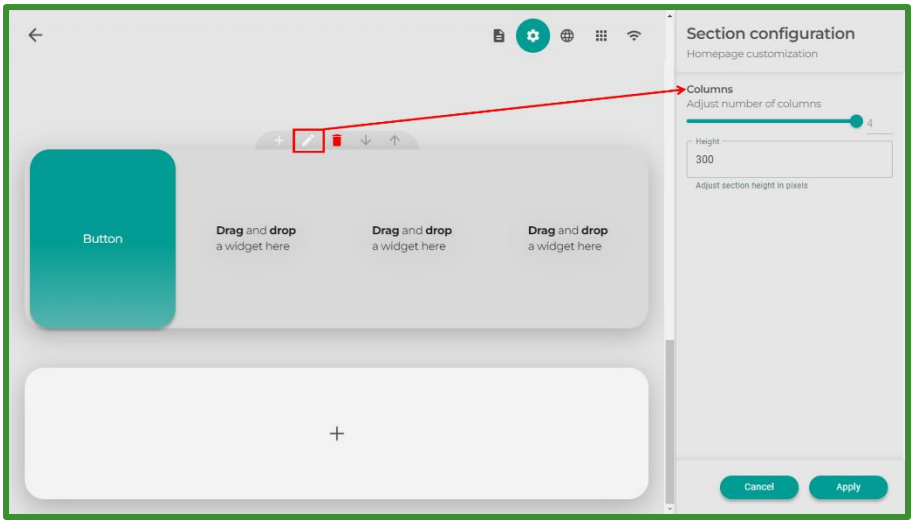


Figure 25: Landing Page Columns Section Configuration

Any other widget can now be added to the available columns.

4.5 Rich Text Editor

The rich text editor allows the insertion of formatted text into the section.

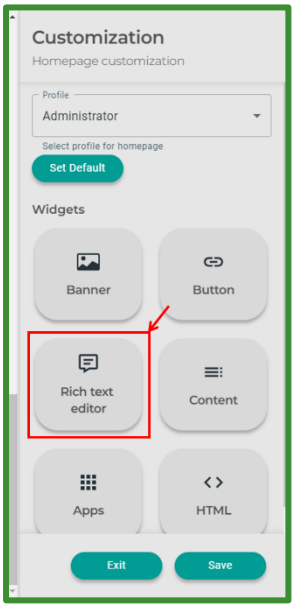


Figure 26: Landing Page Rich Text Editor

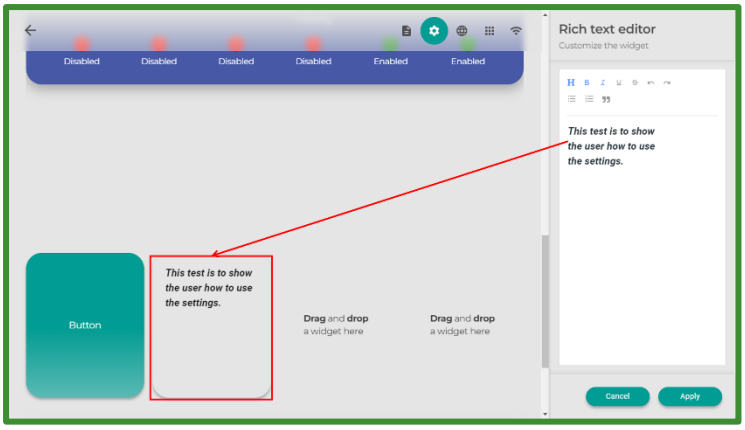


Figure 27: Landing Page Rich Text Editor Configuration

4.6. Content

With this widget, the user profile landing page can be configured to provide direct access to specific content available in the **C3 Micro-Cloud.**

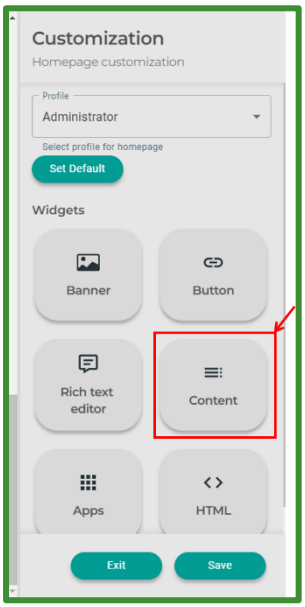


Figure 28: Landing Page Content

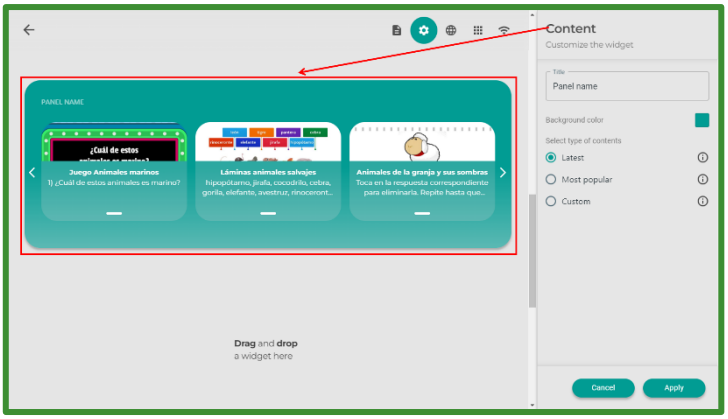


Figure 29: Landing Page Content Configuration

There are 3 options to select the content that will be shown:

1. The most recent content that arrived on the device;
2. The most popular content, which is the most frequently viewed;
3. Custom, where the content to be shown can be selected individually.

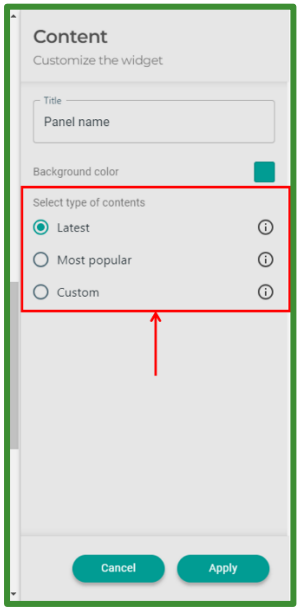


Figure 30: Landing Page Content's Type

Figure 31: Landing Page Content Customization

There is also an option to change the name of the content box, as well as its background color and transparency.

4.7. App

The App widget is used to provide direct access to the applications that are present on the **C3 Micro-Cloud**.

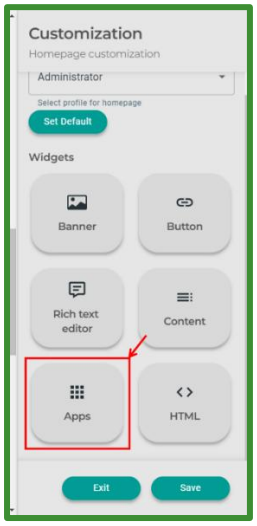


Figure 32: Landing Page App

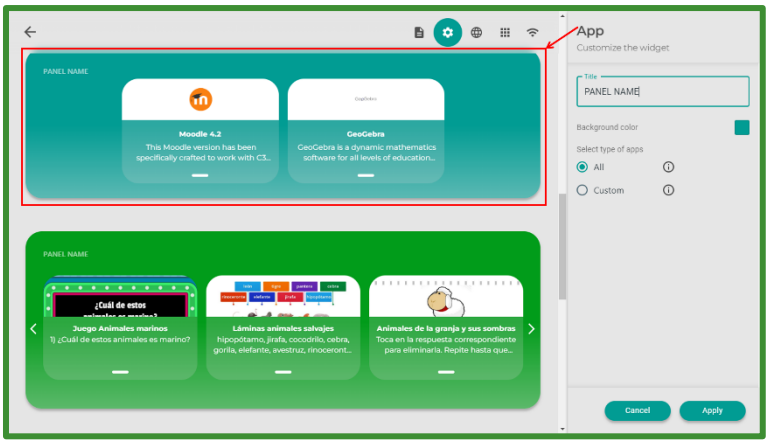


Figure 33: Landing Page App Customization

Clicking on an **App** on the right side will move it to the section. Clicking again on the same app will remove it from the section.

When clicking on the first app, it will appear on the leftmost side of the section. The next app clicked will be placed on the right side of the previous one.

There are 2 options to select which apps will be shown:

1. All available apps;
2. Select the apps you want.

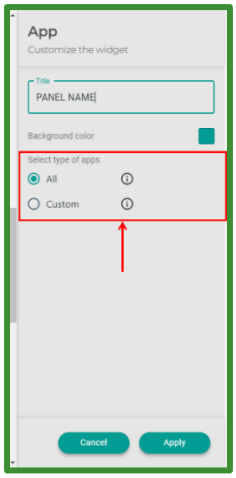


Figure 34: Landing Page App's Type

As with other widgets, we can change the name of the section, as well as its background color and transparency.

4.8. HTML

he HTML widget is used to include a web page written in HTML code within a section.

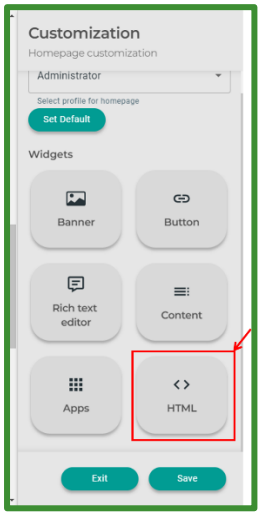


Figure 35: Landing Page HTML Customization

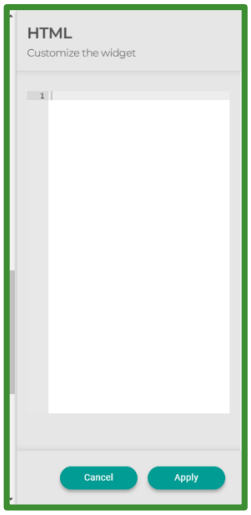


Figure 36: Landing Page HTML

If the HTML code is too large to fit the default height of a section, a scrollbar will appear on the right side of the section. If desired, this scrollbar can be reduced or removed by increasing the height of the section.

5. C3 Micro-Cloud Dashboard

The **C3 Micro-Cloud** dashboard provides a comprehensive overview of the device's configuration and operating mode. The details are displayed in individual cards, using a clear and non-technical format. This page is accessible to users with a teacher or administrator profile. The data displayed is static at the moment the page is opened and requires a refresh to show the latest updates.

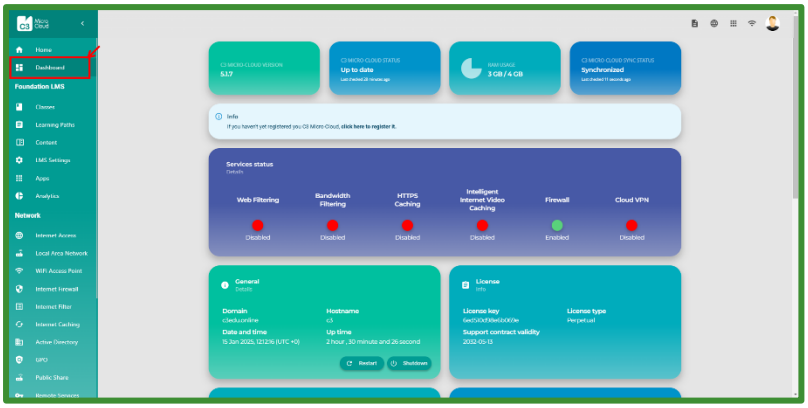


Figure 37: Dashboard Page

5.1. Top Row

Figure 38: Dashboard Top Row

At the top of the dashboard page, the following information regarding the **C3 Micro-Cloud** is available:

- Software version: Starts at version {{ C3_VERSION }};
- Status: Indicates if the **C3 Micro-Cloud** software is up to date;
- RAM usage: Displays how much RAM is currently being used;
- Sync status: Shows the synchronization status with **C3 Cloud Control**.

Information: If you haven't registered your **C3 Micro-Cloud** yet, you can do so by simply clicking as indicated in the following sequence.

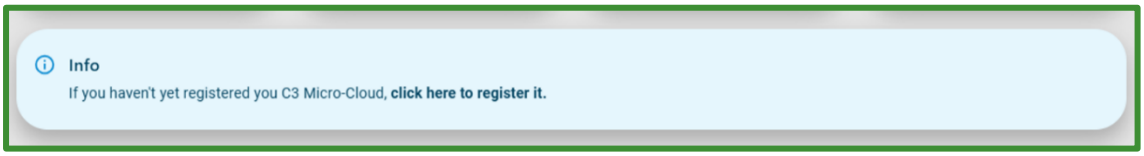


Figure 39: Dashboard Register Information

5.2. Service Status

The service status card provides information about the multiple services running on the **C3 Micro-Cloud**:

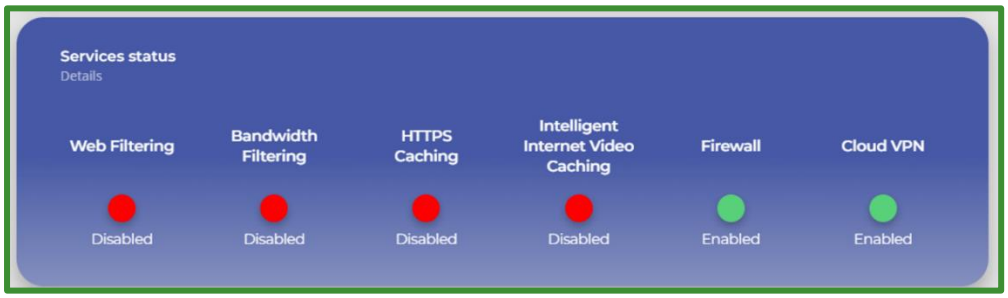


Figure 40: Dashboard Service Status

A red ball indicates that the service is not running, while a green ball indicates that the service is currently running.

- **Web filtering:** The status of the white or black list;
- **Bandwidth filtering:** The status of the bandwidth limitation service;
- **HTTPS Caching**: The status of the HTTPS cache service (requires the Critical Links certificate to be installed);
- **Intelligent Video Caching:** The status of the video cache service (requires the Critical Links certificate to be installed);
- **Firewall:** The status of the firewall service;
- **CloudVPN:** The status of the CloudVPN service, used for remote access to the **C3 Micro-Cloud** (requires activation on the Critical Links servers side).

5.3. General and License

The service status card provides information about the multiple services running on the **C3 Micro-Cloud**:

5.3.1. General

Provides information about the **C3 Micro-Cloud** domain, date and time, hostname and uptime.

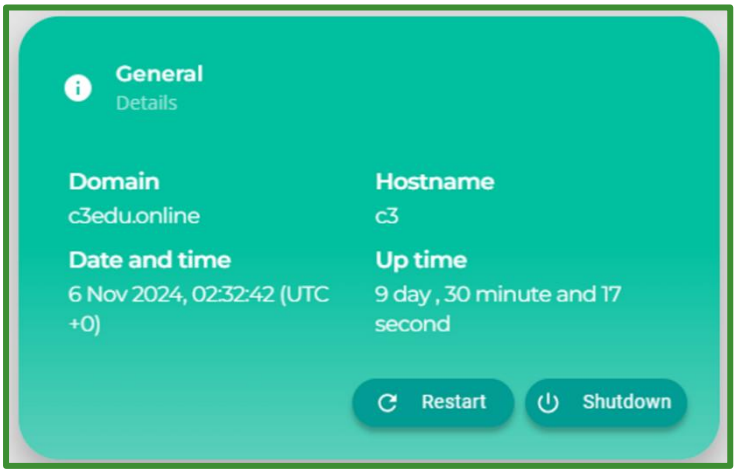


Figure 41: Dashboard General

Two buttons are provided to **restart** or **shutdown** the device. If you click on either of them, a message will appear asking if you are sure you want to proceed.

Figure 42: Dashboard General Restart and Shutdown Button

5.3.2. License

Provides Information about the **C3 Micro-Cloud** License, Type of License (perpetual or time limited), as well as the support contract end date.

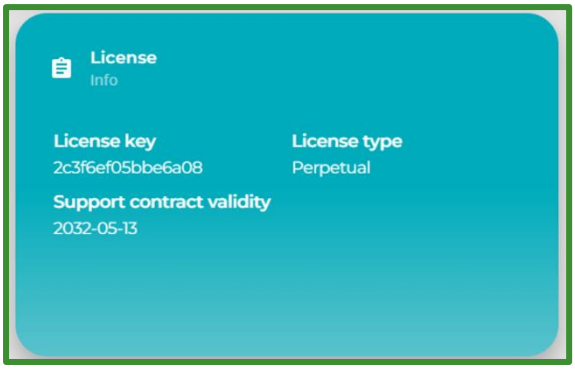


Figure 43: Dashboard License

5.4. C3 Cloud Control and Network Information

5.4.1. C3 Cloud Control

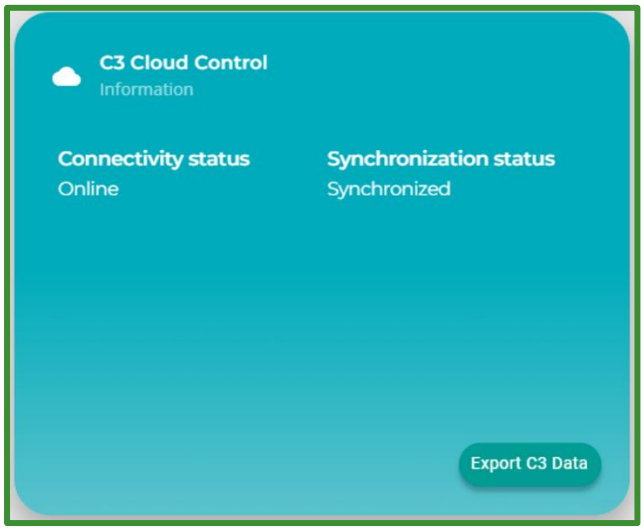


Figure 44: Dashboard - C3 Cloud Control Information

It reports information about the **C3 Cloud Control** connectivity and synchronization status. Additionally, from this card, you can export data to be uploaded to the **C3 Cloud Control** for devices that have never connected to the internet.

Figure 45: Dashboard Export C3 Data Button

If you press the button ***Export C3 Data*** you will be presented with two options:

- Download file: the **C3 Micro-Cloud** offline information will be downloaded to your computer. You can then take your computer to a location with Internet Access and upload this file to the **C3 Cloud Control**.

- Export to USB drive: if you have a USB pen directly attached to the **C3 Micro-Cloud**, you can export the offline information directly to the attached USB pen. The information is stored in a file with the name c3licenseid.txt.

5.4.2. Network Interfaces

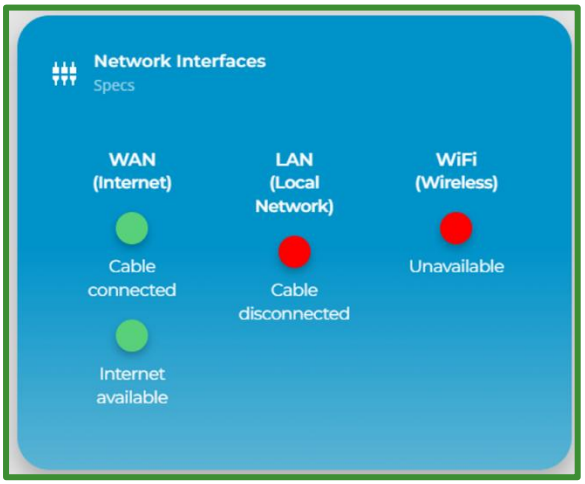


Figure 46: Dashboard Network Interfaces

It reports the status of the **C3 Micro-Cloud** network interfaces and internet availability. A red ball indicates that the service is not running, while a green ball indicates that the service is currently running.

Important Note: For **C3 Micro-Cloud** devices that do not have a physical wired LAN interface, the LAN status will always be shown as red (cable disconnected). This is NOT a malfunction.

5.5. Local Area Network and Internet Access

5.5.1. Local Area Network (LAN)

Provides information about the **C3 Micro-Cloud** Hostname, Netmask and Ip Address.

Figure 47: Dashboard Lan

5.5.2. Internet Access (WAN)

Provides information about the **C3 Micro-Cloud**: IP Configuration Method; Netmask; DNS Server; IP Address and Gateway.

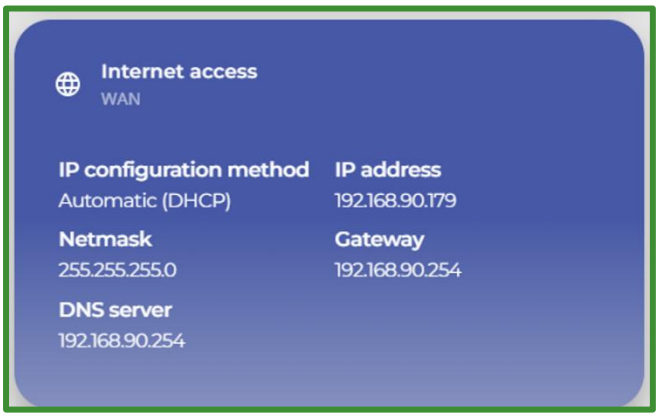


Figure 48: Dashboard Wan

5.3. Hardware

The hardware card in the dashboard details basic information about the **C3 Micro-Cloud** hardware:

- Number of CPU Cores;
- RAM usage;

- Size and usage of the System and Data disk partitions.

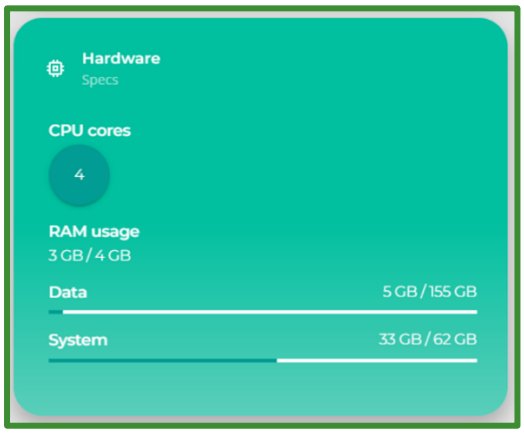


Figure 49: Dashboard Hardware

5.3.1. Wireless

This card shows information about the **C3 Micro-Cloud** WiFi configuration:

- **WiFi AP Name:** The WiFi access point SSID name;
- **WiFi band:** 2.4Ghz or 5Ghz WiFi band;
- **Channel:** WiFi channel selected (available channels depend on the regulatory domain);
- **WiFi AP Password:** The password to connect to the device Access Point;
- **Regulatory Domain:** Country where the **C3 Micro-Cloud** is installed;
- **Connected stations:** How many user devices are currently connected to the **C3 Micro-Cloud.**

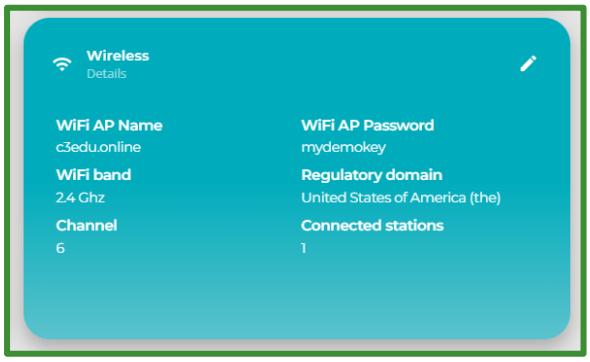


Figure 50: Dashboard WIFI

Important Note: Devices without the WiFi interface do not show this card.

For more information about the **dashboard**, refer to the offline video titled "**dashboard"** located in the **"C3 Micro-Cloud Training Videos - English Version"** folder on the **C3 Micro-Cloud** or watch the video on the YouTube platform through the provided link:

https://youtu.be/QVuCvCYStik?si=6FZ3l7bPn6j3tc2S

6. C3 Micro-Cloud Foundation LMS

The **C3 Micro-Cloud Foundation LMS** offers students an innovative way to access content, while providing teachers with a method to organize the available content into Classes, where students can directly access what is most relevant to their learning curriculum.

6.1. LMS Settings

In this page, settings that apply across all **Foundation LMS** features are configured.

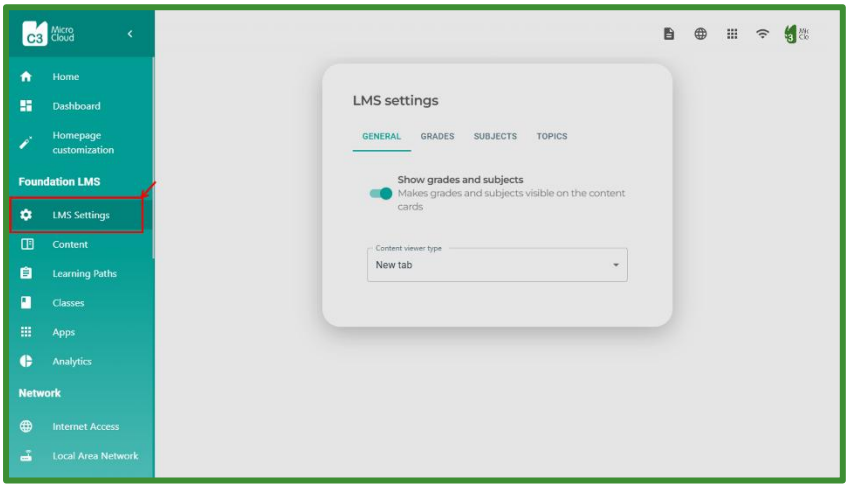


Figure 51: Foundation LMS

6.2. General

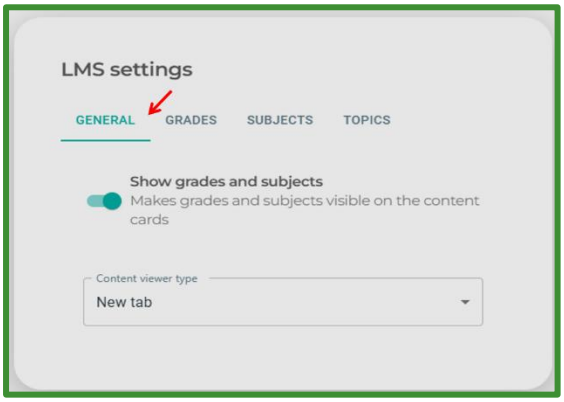


Figure 52: General LMS

In the **General Tab**, two settings are available:

- **Show grades and subjects:** enables/disables showing grade and subject information in the content card of each content;

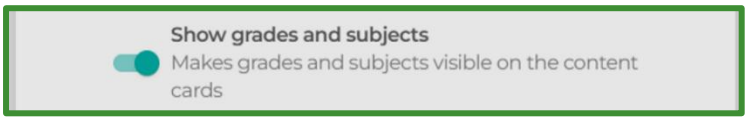


Figure 53: LMS Show Grades and Subjects

- **Content viewer type:** defines how content is displayed to the user. If 'New Tab' (default) is selected, clicking on a content card will open its content in a new browser tab. If 'Internal Viewer' is selected, the content will be displayed in the current tab. Clicking the back button on the browser will return the user to the **C3 Micro-Cloud** main menu.

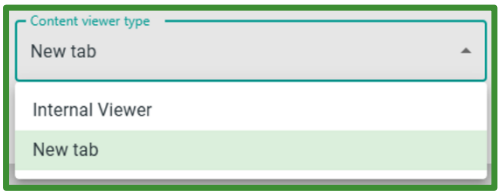
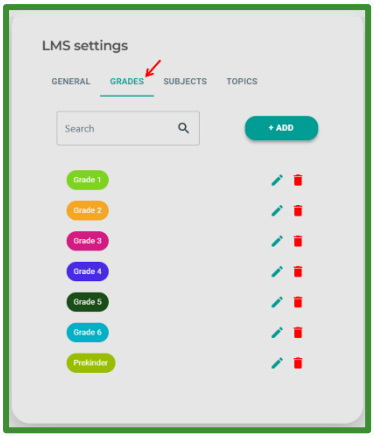


Figure 54: LMS content viewer type

6.3. Grades



In the **Grades Tab**, you can create the required grades to be subsequently applied to specific content. Simply click the '**Add**' button. This tab also allows you to search for previously added grades using the search filter. When adding or editing a grade, you can assign a color to the grade label. The grade information will be displayed in the content cards.

Figure 55: LMS Adding Grades

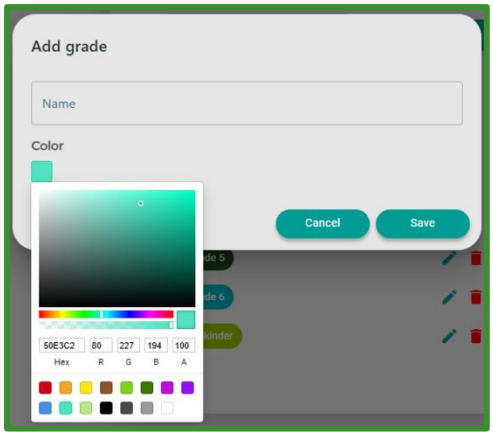


Figure 56: LMS Grade Color Customization

6.4. Subjects

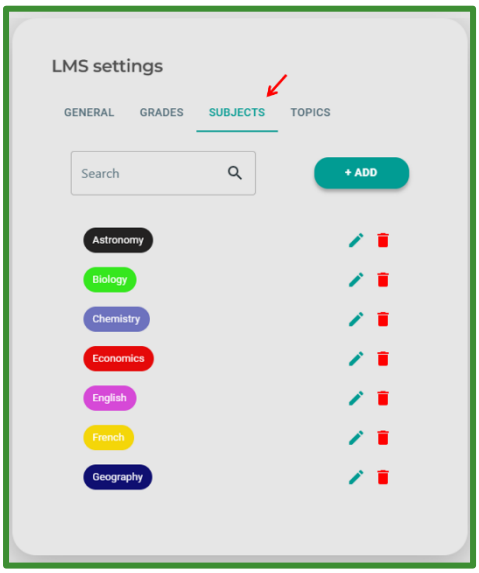


Figure 57: Adding Subjects

In the **Subjects** tab, you can create the required subjects to be subsequently applied to specific content. Simply click the '**Add**' button. This tab also allows you to search for subjects already added using the search filter. When adding or editing a subject, you can assign a color to the subject label. The subject information will be displayed in the content cards.

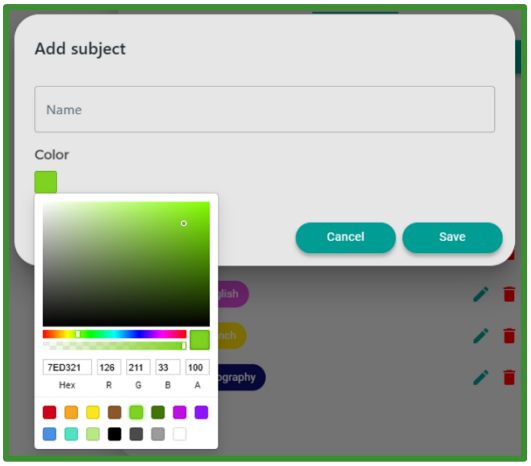


Figure 58: Subjects Color Customization

6.5. Topics

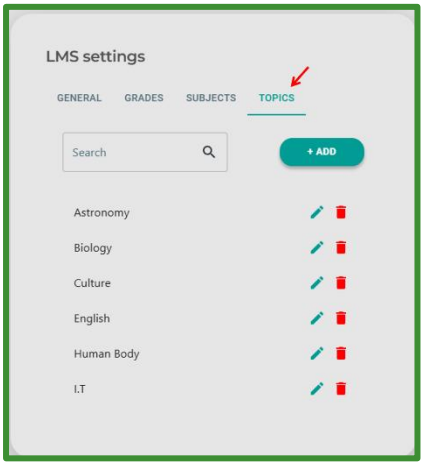


Figure 59: Topics tab

In the **Topics** tab, additional content-related information can be added and subsequently applied to content cards. This will provide users with an extra level of filtering when searching for specific content. Simply click the '**Add**' button.

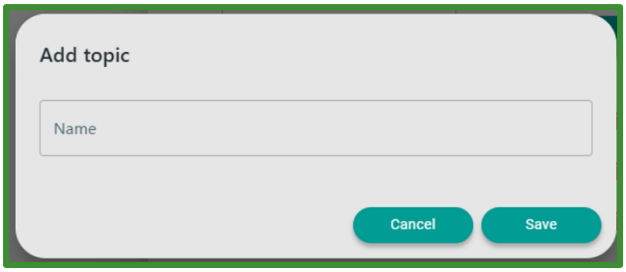


Figure 60: Adding Topics

In this tab, you can also search for topics already added using the search filter.

For more information about **LMS Settings**, refer to the offline video titled **'LMS Settings'** located in the folder **'C3 Micro-Cloud Training Videos - English Version'** on the **C3 Micro-Cloud**, or watch the video on the YouTube platform through the provided link: **https://youtu.be/-oS7lS_gW-U?si=cEjli3XaPr1qazU6**

7. Content

Content stored on the **C3 Micro-Cloud** is either pushed to the device by **C3 Cloud Control** or locally uploaded.

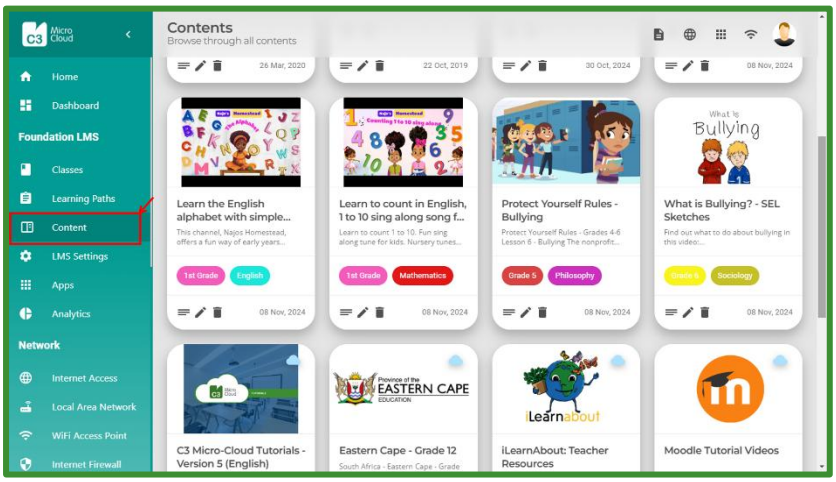


Figure 61: Content View

Content originating from **C3 Cloud Control** displays a small cloud icon in the upper right corner of the content card.

Figure 62, C3 Cloud Control Originated Content View

For content originating from **C3 Cloud Control**, only certain information associated with the content can be edited. Deletion of content can only be performed for locally uploaded content. This means

that removal of cloud-based content from the **C3 Micro-Cloud** must be done through the **C3 Cloud Control** platform.

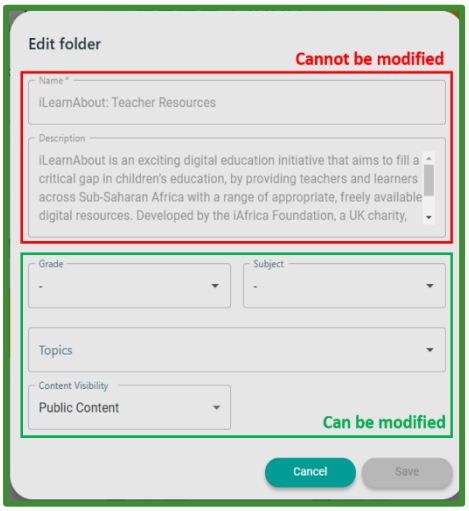


Figure 63: Fields that Can and Cannot be Modified from the C3 Cloud Control

On the other hand, users with an administrator or teacher profile can upload various types of content to the device, which can then be used by all users. This content will only be available on the specific **C3 Micro-Cloud** device to which it was uploaded. Content is added using the **+ ADD** button at the top right of the content page. The different types of content will be described later.

7.1. Content Search

Content search is performed using the search field located in the top left corner of the content page. This feature helps users locate content by name more easily.

Figure 64: Content Search View

7.2. Content Filtering

Content filtering is performed by clicking the inverted triangle next to the search field in the top left corner of the content page. The content filter helps users search for content in a more specific and detailed way.

Figure 65: Content Filtering View

Filtering can be performed by:

- **Sort:** name, date created, date updated;
- **File type:** All, **C3 Micro-Cloud** archive, **C3 Micro-Cloud** content, Content package, Folder, Image, PDF, PPT, Unknown, URL, Video, Wiki;
- **Origin:** All, Local, **C3 Cloud Control**;
- **Grade:** all those previously registered in **C3 Micro-Cloud**;
- **Subject:** all those previously registered in **C3 Micro-Cloud**;
- **Topics:** all those previously registered in **C3 Micro-Cloud**.

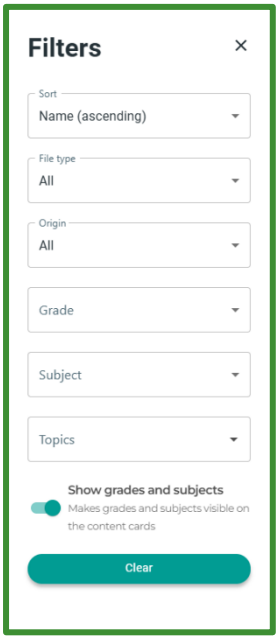


Figure 66: Content Filter Options

When the content page has a filtered applied the filter icon will be marked.

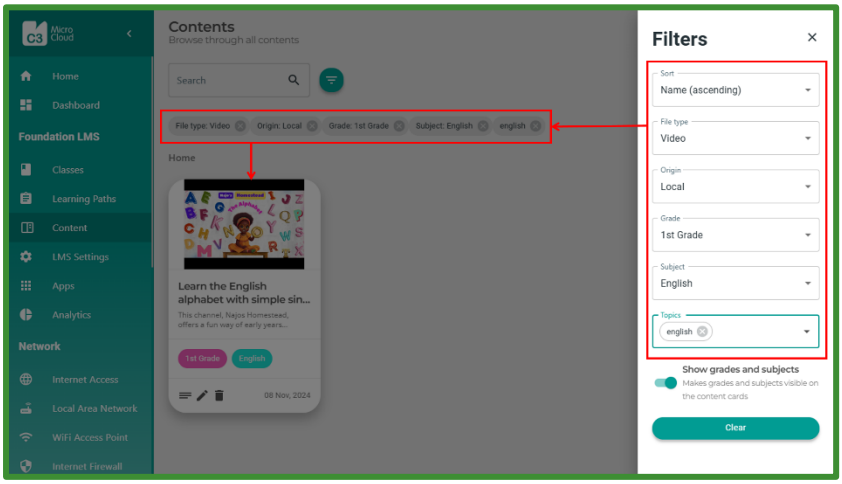


Figure 67: Content Filter Applied

Within the filter, there is an option to enable or disable the display of grades and subjects on content cards. If this option is disabled, the grade and subject search filter will still work, but this information will not be shown on the cards.

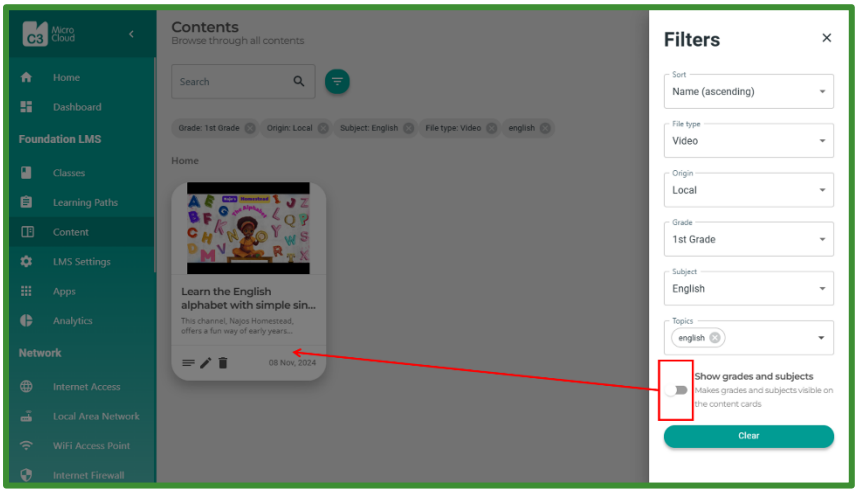


Figure 68: Disable Content Cards Grades and Subjects

7.3. Add Content Button

Add Content button is located on the top right corner of the content page.

Figure 69: Add Content Button

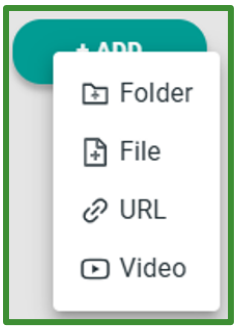


Figure 70: Add Content Button Options

Clicking on this button will display four options for inserting content:

- **Folder;**
- **File;**
- **URL;**
- **Video.**

7.3.1. Add Folder

The folder content type creates a hierarchical folder structure where content can be stored in an organized way. Organizing content into folders is a good practice, but it is not mandatory.

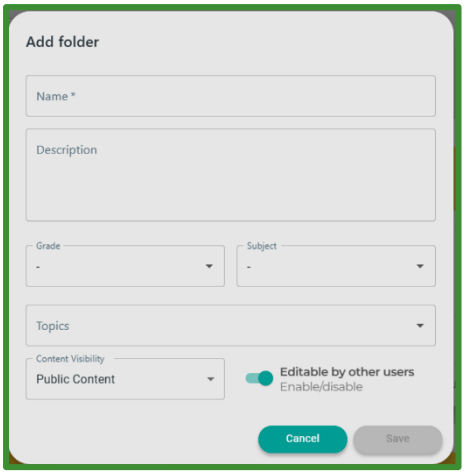


Figure 71: Folder Form

The folder form, to be filled out, consists of:

- **Name field:** Here user should put a name for his folder;
- **Description field:** If necessary, user can insert a description to clarify or give more details about his folder;
- **Grade:** Here the user will select which grade, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Subject:** Here the user will select which subject, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Topics:** Here the user will select which topics, previously registered in **C3 Micro-Cloud**, this folder will belong to. But, in this specific case, if the user wants to insert topics that do not exist into the **C3 Micro-Cloud** yet, it's possible to write it in this field and then, it will be automatically inserted. Besides, it will become part of the **C3 Micro-Cloud** topic's database;
- **Content visibility:** Here the user can determine the visibility of his folder. There are four options:
    - → **Public content:** Visible to anyone (no matter if they have signed in to the **C3 Micro-Cloud** or not);
    - → **Teacher's content:** Only signed in to the **C3 Micro-Cloud** users with a teacher profile will be able to view the folder;
    - → **Authenticated users:** Only users that have signed in to the **C3 Micro-Cloud** have access;

→ **Private content:** Only the content creator and the **C3 Micro-Cloud** Administrator will have access to it.

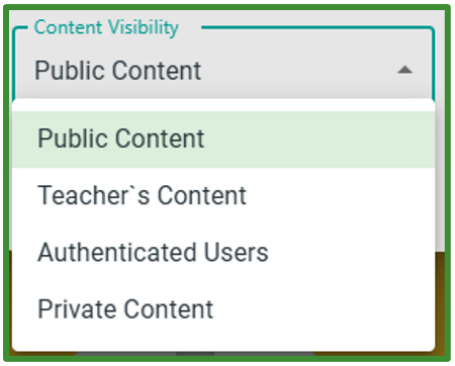


Figure 72: Content Visibility Types

Important: All content inserted into a folder will inherit the grade, subject, and visibility level set for that folder.

- **Editable by other users:** If this option is enabled, other users with a teacher profile will be able to make changes to this folder. If disabled, only the user who created the folder will be able to modify it. It's important to note that, in both cases, users with an administrator profile can make any changes.

7.3.2. Add File

The 'Add File' option allows users to upload any type of file from their workstation to the content page or folder.

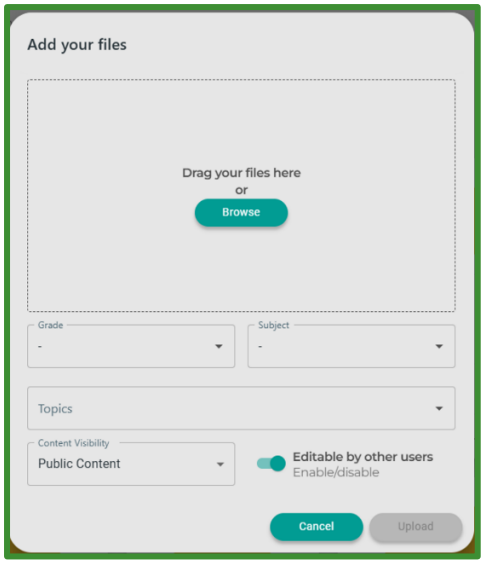


Figure 73: File Form

The file form, to be filled out, consists of:

- **Drag your files here or browse:** here user could just drag and drop any type of files or indicate the location on his device where the file to be uploaded is saved. Here, user has a two step process:
  → The first part, as shown on figure 69, you are asked to select the file or files to be uploaded;
  → After the files are selected, they will be shown, with available and required disk space, as shown below.

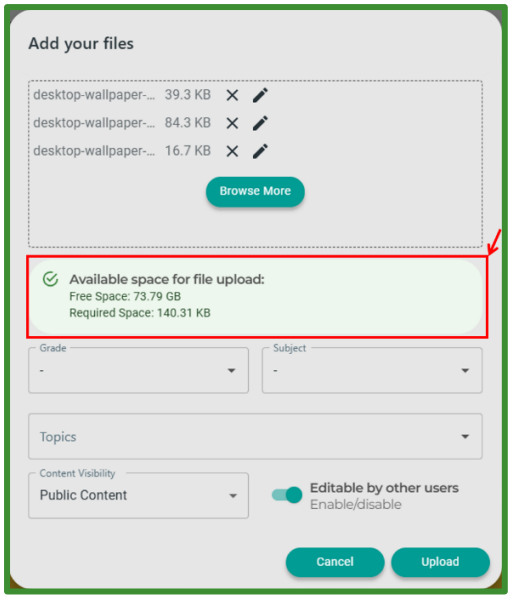


Figure 74: File Form

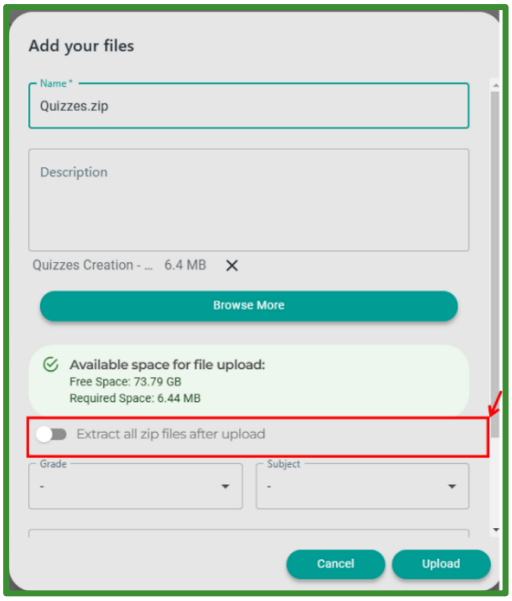


Figure 75: Enable the Decompressing zip File After Upload

Important Note: The file option also supports the upload of static websites. In this case, Websites need to be compressed in **.zip** format for upload and at the root of the zip file an **index.html** file needs to exist.

The file form, to be filled out, consists of:

- **Grade:** Here the user will select which grade, previously registered in **C3 Micro-Cloud**, this file will belong to;
- **Subject:** Here the user will select which subject, previously registered in **C3 Micro-Cloud**, this file will belong to;
- **Topics:** Here the user will select which topics, previously registered in **C3 Micro-Cloud**, this file will belong to. But, in this specific case, if the user wants to insert topics that do not exist into the **C3 Micro-Cloud** yet, it's possible to write it in this field and then, it will be automatically inserted. Besides, it will become part of the **C3 Micro-Cloud.** topic's database;
- **Content visibility:** Here the user can determine the visibility of his file. There are four options;

→ **Public content:** Visible to anyone (no matter if they have signed in to the **C3 Micro-Cloud** or not);

→ **Teacher's content:** Only signed in to the **C3 Micro-Cloud** users with a teacher profile will be able to view the file;

→ **Authenticated users:** Only users that have signed in to the **C3 Micro-Cloud** have access; or

→ **Private content:** Only the content creator and the **C3 Micro-Cloud** Administrator will have access to it.

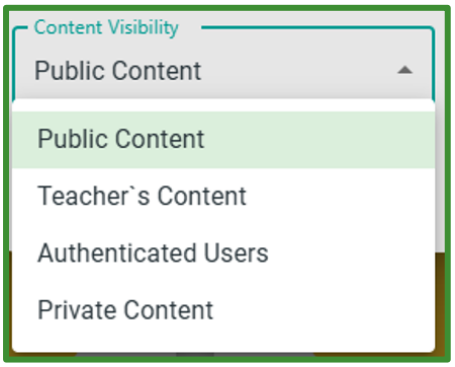


Figure 76: Content Visibiility Types

- **Editable by other users**: if this option is enabled, other users (with a teacher profile) will be able to make changes to this file. If disabled, only the user who created the file will be able to modify it. It's important to remember that in both cases, users with an administrator profile can make any changes.

After adding the file, the user will be able to locate it, among the content inserted in **C3 Micro-Cloud**, and choose the **Edit** option.

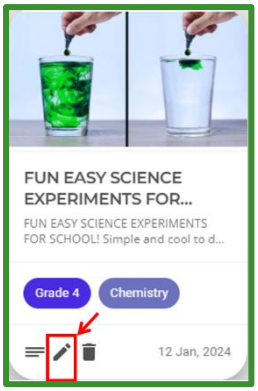


Figure 77: Content Card Edit Option

The file form will open again, but this time the user can configure a thumbnail.

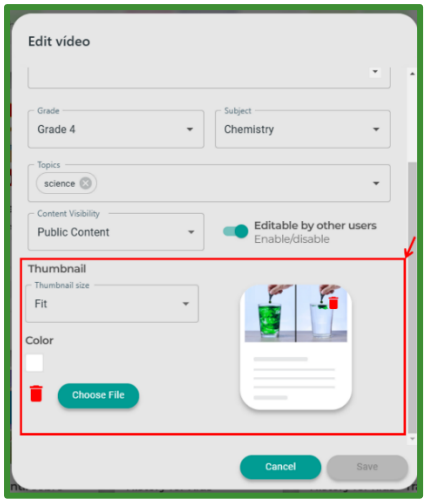


Figure 78: Thumbnail Editing

Important Note: If you are trying to insert a website into your **C3 Micro-Cloud**, we recommend watching the video **'How to Insert a Website into C3 Micro-Cloud**.

For more information on how to insert a website, watch the video offline in the **'C3 Micro-Cloud Training Videos - English Version'** folder on the **C3 Cloud Control** or watch it on the YouTube platform through the provided link: **https://youtu.be/t9qPb9-ft-Y?si=w2mrdkMNKmI9NQ-k**

7.3.3. Add URL

Adding content as a URL will redirect the user's browser to the defined URL, which can be either an external or internal address.

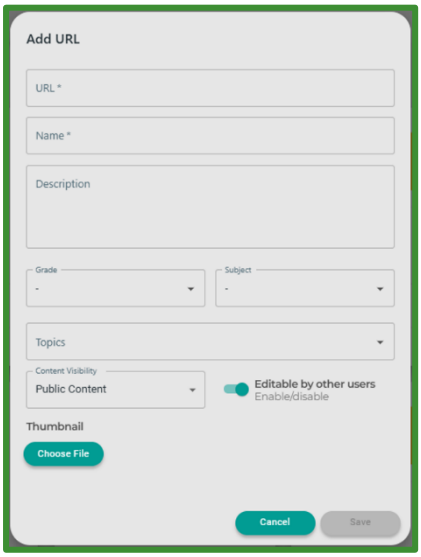


Figure 79: URL Form

The URL form, to be filled out, consists of:

- **Name field:** Here user should put a name for his URL. It's important to remember that URL name must be inserted beginning with http:// or https://;
- **Important Note:** Some URLs, when added, can automatically fill in the **Name** and **Description** fields. But both fields can be edited;
- **Description field:** If necessary, user can insert a description to clarify or give more details about the URL;
- **Grade:** Here the user will select which grade, previously registered in **C3 Micro-Cloud**, this URL will belong to;
- **Subject:** Here the user will select which subject, previously registered in **C3 Micro-Cloud**, this URL will belong to;
- **Topics:** Here the user will select which topics, previously registered in **C3 Micro-Cloud**, this URL will belong to. But, in this specific case, if the user wants to insert topics that do not exist into the **C3 Micro-Cloud** yet, it's possible to write it in this field and then, it will be automatically inserted. Besides, it will become part of the **C3 Micro-Cloud** topic's database;
- **Content visibility:** Here the user can determine the visibility of his URL. There are four options:
  - → **Public content:** Visible to anyone (no matter if they have signed in to the **C3 Micro-Cloud** or not);
  - → **Teacher's content:** Only signed in to the **C3 Micro-Cloud** users with a teacher profile will be able to view the URL;
  - → **Authenticated users:** Only users that have signed in to the **C3 Micro-Cloud** have access; or
  - → **Private content:** Only the content creator and the **C3 Micro-Cloud** Administrator will have access to it.

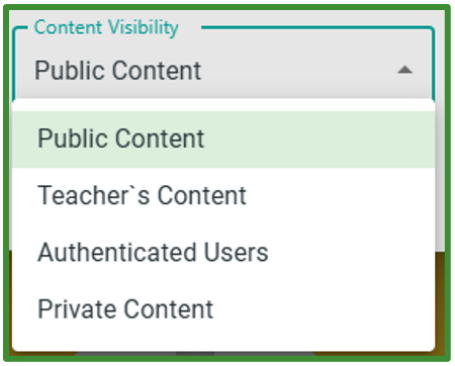


Figure 80: Content Visibility Types

- **Editable by other users:** if this option is enabled, other users (with a teacher profile) will be able to make changes to this URL. If it is disabled, only the user who created the URL will be able to make changes to it. It is important to note that, in both cases, users with an administrator profile have full access;
- **Thumbnail:** through this option, you can add or replace the URL thumbnail file. Simply click on the **'Choose File'** button and select the location on your device where the thumbnail file is stored. Additionally, you can adjust the size of the thumbnail within the card by clicking on the **'Thumbnail Size'** field

7.3.3.1. Add Video

The option to add video content to the **C3 Micro-Cloud** allows these videos to be viewed later and played directly from the device, without the need for an internet connection. In other words, this video option enables the uploading of internet videos into the **C3 Micro-Cloud.** The process begins with a content disclaimer from Critical Links, informing the user that they are solely responsible for any copyright issues related to the video.

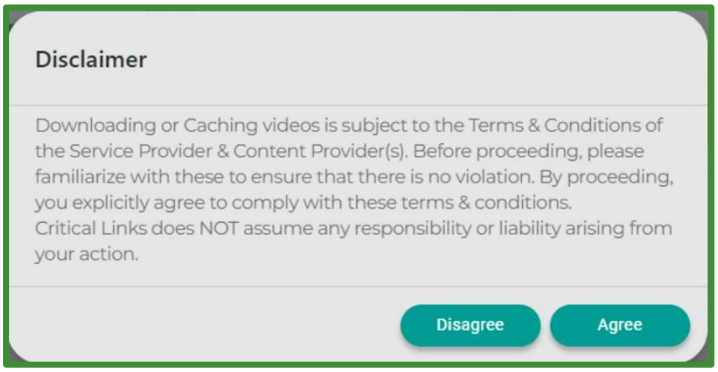


Figure 81: Video Disclaimer Waring

To cancel this process, the user just needs to click on the **'Disagree'** button. However, to proceed with the process, the user must click on the **'Agree'** button. Then, three steps will follow:

1. A box will open, and the user will paste the URL(s) of the video(s) to be downloaded to the **C3 Micro-Cloud**. Multiple URLs can be inserted at once; simply type them correctly, one per line, and then click on the **'Next'** button.

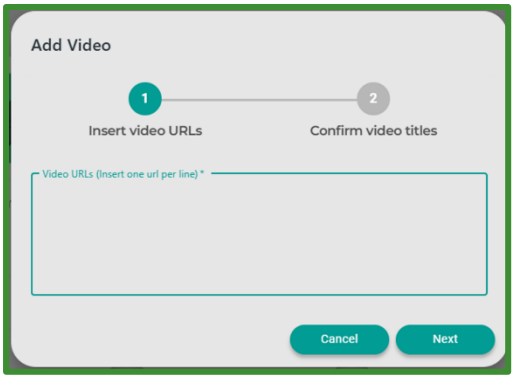


Figure 82: Adding Video Box

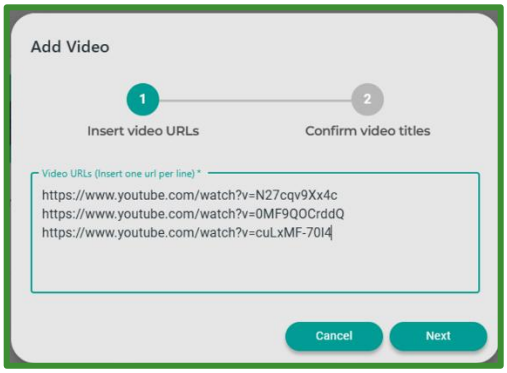


Figure 83: Inserting URL on Video

2. The **C3 Micro-Cloud** uses the URLs to check the video compatibility with the system. Additionally, it checks whether the **C3 Micro-Cloud** has enough disk space to store the video(s). In this step, it is also possible to edit the video title.

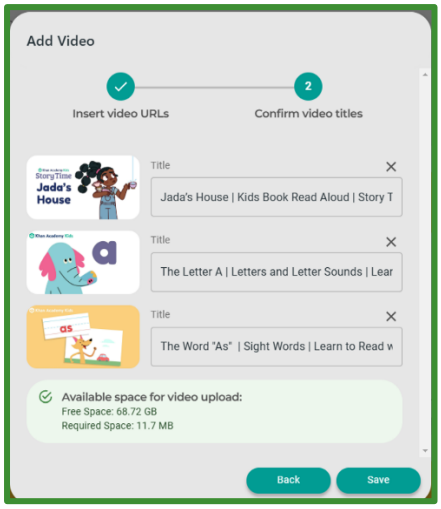


Figure 84: CheckVideo URLs

3. If everything is OK, click the **Save** button to start the download process. After the download is completed, the video(s) will be available for viewing on the Content main page, without the need for an internet connection

If the user needs to change any information in the video, simply click on the **Edit** icon located in the bottom left corner of the video card to open the form with the information to be changed. At the end, just click the **Save** button.

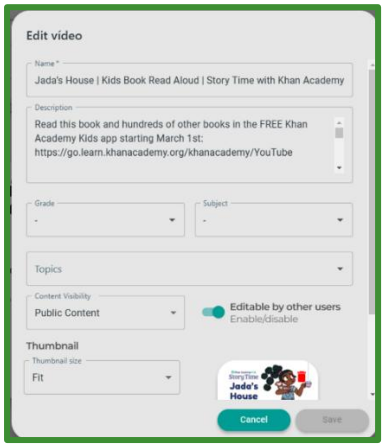


Figure 85: Editing Video Form

For more information about **Content**, refer to the offline video titled '**Content**' located in the folder **'C3 Micro-Cloud Training Videos - English Version'** on the **C3 Micro-Cloud**. Or watch the video on the YouTube platform through the provided link:

https://youtu.be/mrUmDwJM2M0?si=oy6_5YEPWHxoDIjH

8. Learning Path

A Learning Path is a sequence of content that a teacher or an administrator can assemble, which will then be made available in a class.

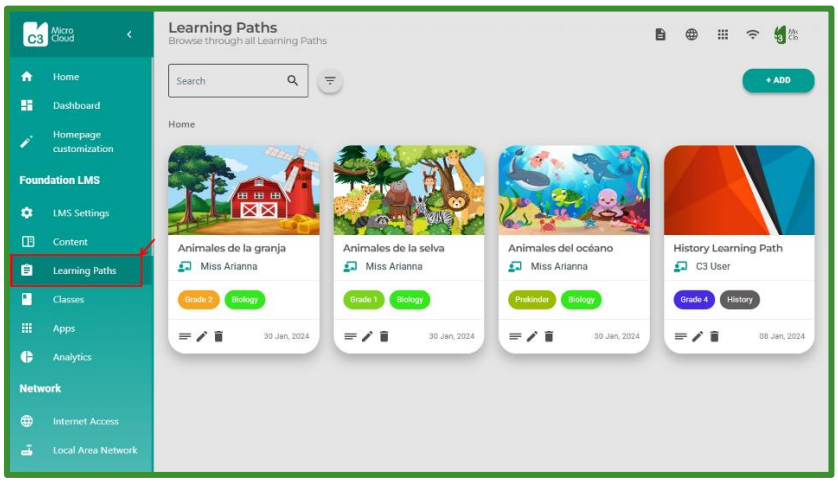


Figure 86: Learning Path View

To streamline and simplify the work of teachers, who are responsible for curating content for the students' learning process, the **C3 Micro-Cloud** supports the creation of Learning Paths, which can then be used as the foundation for class creation. Learning Paths can be added using the **+ ADD** button, located in the top right corner of the Learning Path page. Additionally, Learning Paths can also be organized into folders to help Learning Path creators keep their paths organized.

The Learning Path card shows **Title**, **Identity of the creator**, **Subjects**, **Grades** and **Creation date**.

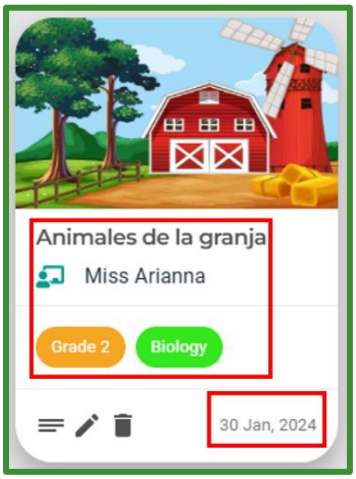


Figure 87: Learning Path Card

Learning Paths are also searchable. Furthermore, you can apply filters to the displayed Learning Paths based on assigned Grade, Subject, or Topic.

8.1. Learning Path Search

"The Learning Path search is conducted through the search field located in the top left corner of the Learning Path page. This search helps users easily locate a Learning Path by its name.

Figure 88: Learning Path Search View

8.2. Learning Path Filtering

Learning Path filtering is done by clicking the inverted triangle next to the search field in the top left corner of the Learning Path page. The filter helps users search for Learning Paths in a more specific and detailed manner.

Figure 89: Learning Path Filtering View

Filtering can be performed by:

- **Grade:** All those previously registered in **C3 Micro-Cloud**;
- **Subject:** All those previously registered in **C3 Micro-Cloud**;
- **Topics:** All those previously registered in **C3 Micro-Cloud**.

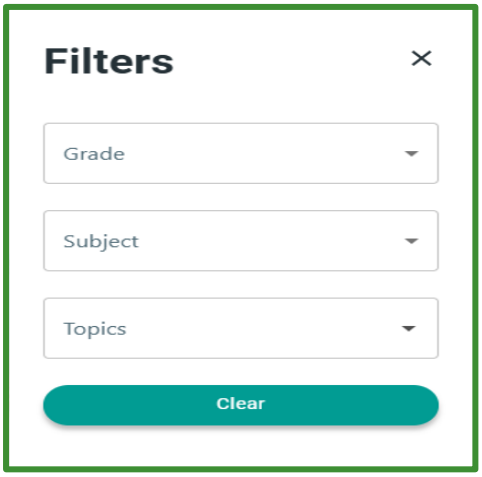


Figure 90: Learning Path Filter Options

When the Learning Path page has a filtered applied the filter icon will be marked.

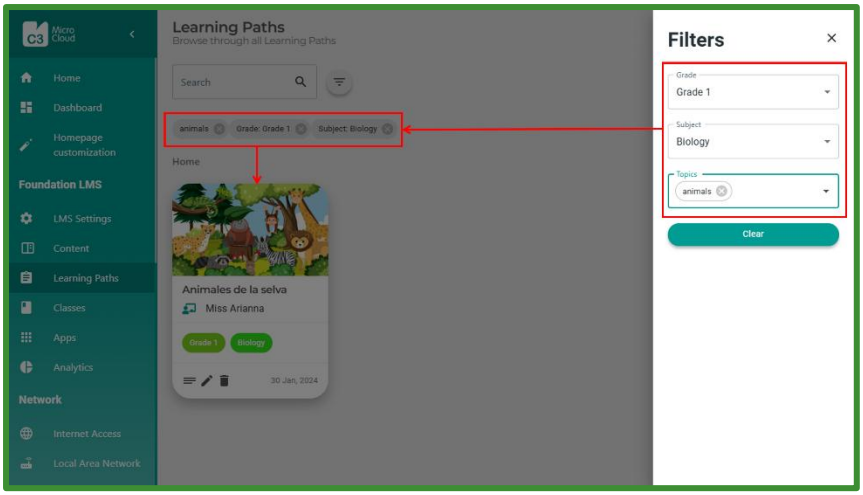


Figure 91: Learning Path Filter Applied

8.3. Add Learning Path Button

Add Learning Path button is located on the top right corner of the Learning Path page.

Figure 92: Add Learning Path Button

Clicking on this **button** will display two options for inserting Learning Path:

- Folder;
- Learning Path.

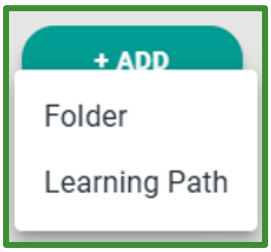


Figure 93: Add Learning Path Button

8.3.1. Add Learning Path Folder

Clicking on **+ ADD** button and choosing the Folder option, will open a form to be filled out.

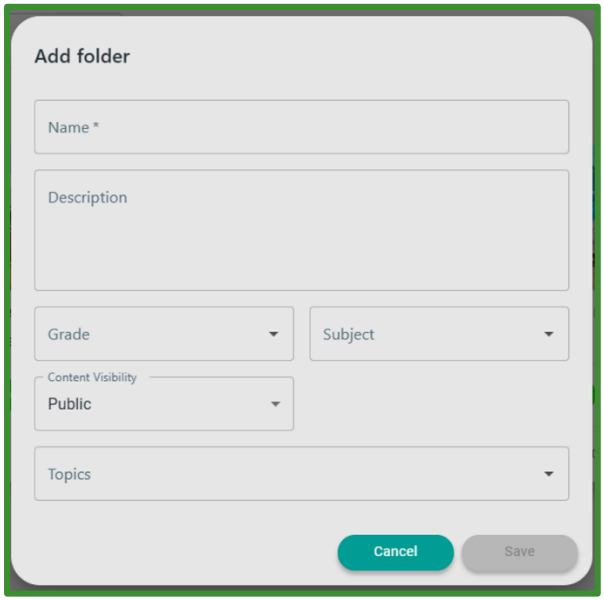


Figure 94: Larning Path Folder Form

The Learning Path Folder form has the following fields:

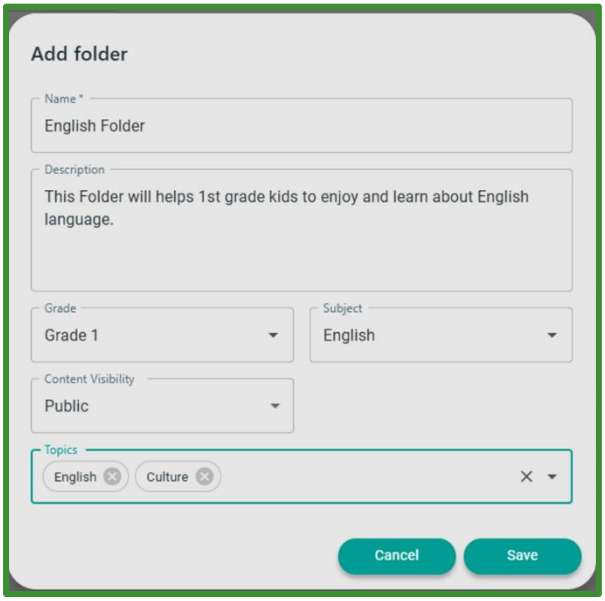


Figure 95: Learning Path Folder Form Example

- **Name field:** Here user should put a name for his folder;
- **Description field:** If necessary, user can insert a description to clarify or give more details about his folder;
- **Grade:** Here the user will select which grade, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Subject:** Here the user will select which subject, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Topics:** Here the user will select which topics, previously registered in **C3 Micro-Cloud**, this folder will belong to. But, in this specific case, if the user wants to insert topics that do not exist into the **C3 Micro-Cloud** yet, it's possible to write it in this field and then, it will be automatically inserted. Besides, it will become part of the **C3 Micro-Cloud** topic's database;
- **Content visibility:** Here the user can determine the visibility of his folder. There are two options:
  → **Public content:** Only users that have signed in to the **C3 Micro-Cloud** have access; or

→ **Private content:** Only the Learning Path creator and the **C3 Micro-Cloud** Administrator will have access to it.

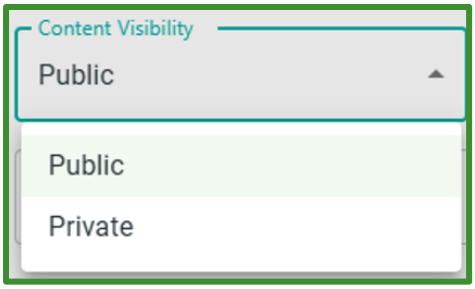


Figure 96: Learning Path Visibility Types

Important Note: All Learning Paths inserted within a folder will inherit the grade, subject, and visibility level set for that folder.

On the main page of a Learning Path folder, there is also an **+ ADD** button in the top right corner. Clicking this button allows you to add more folders or Learning Paths.

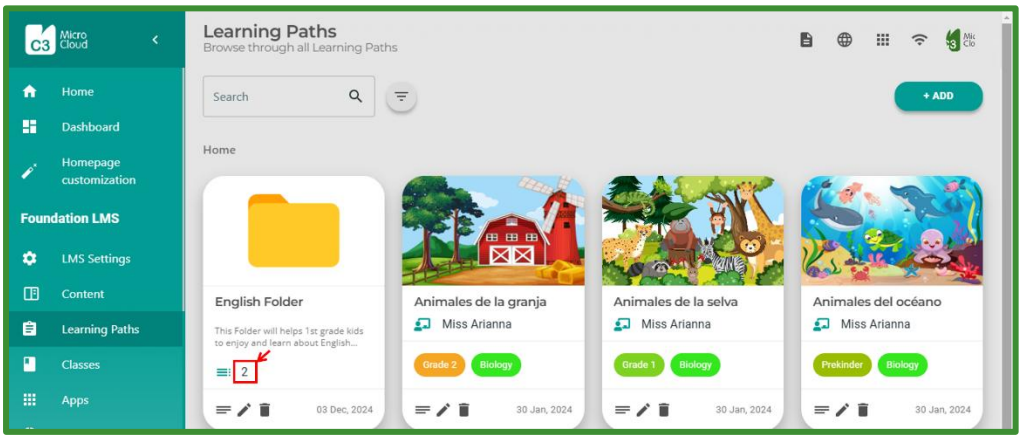


Figure 97: Learning Path Folder Main Page

In our example, two subfolders were created within the root folder, but this is not mandatory. Learning Paths can also be created without the need for subfolders or even a folder. This depends on the needs of the teacher and/or administrator.

The folder card displays information about the number of Learning Paths it contains.

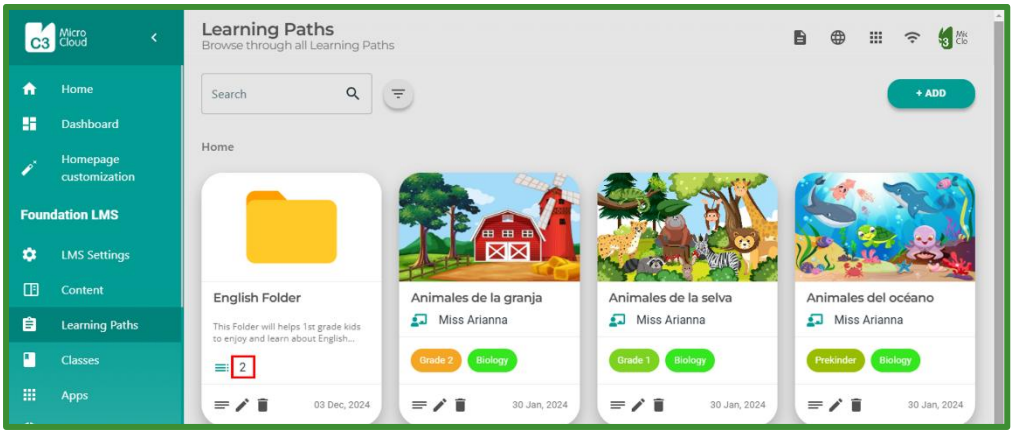


Figure 98: Learning Path Folder Card

As we can see, the folder card displays the number of Learning Paths and/or subfolders it contains. By clicking on the folder, we can view its contents.

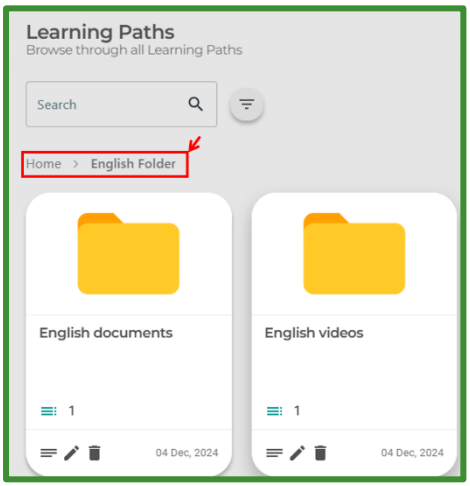


Figure 99: Learning Path Folder Main Page with it's Subfolders

Important Note: If the user decides to create a folder, it is mandatory to create at least one Learning Path inside the folder in order to add content.

8.3.2. Add Learning Path

Clicking on **+ ADD** button and choosing the Learning Path option, will open a form to be filled out.

The Learning Path form has the following fields:

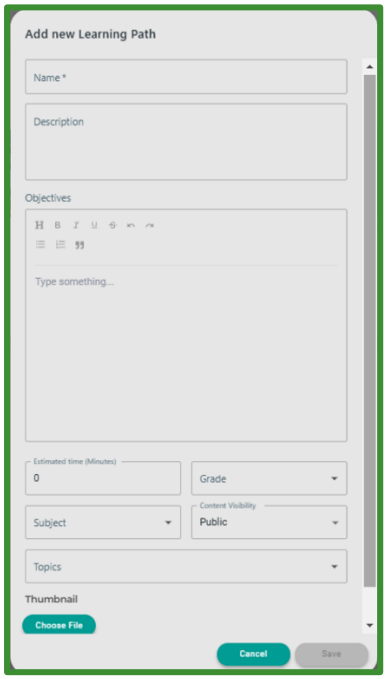


Figure 100: Learning Path Form

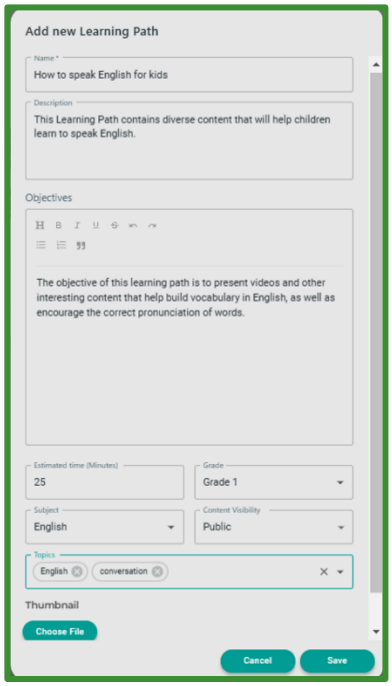


Figure 101: Learning Path Form Example

- **Name field:** Here user should put a name for his folder;
- **Description field:** If necessary, user can insert a description to clarify or give more details about his folder;
- **Objectives field:** If necessary, the user can detail which objectives the Learning Path aims to achieve;
- **Estimated time:** Here the user can enter the estimated time (minutes) that all Learning Path will require from the student;
- **Grade:** Here the user will select which grade, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Subject:** Here the user will select which subject, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Topics:** Here the user will select which topics, previously registered in **C3 Micro-Cloud**, this folder will belong to**.** But, in this specific case, if the user wants to insert topics that do not

exist into the **C3 Micro-Cloud** yet, it's possible to write it in this field and then, it will be automatically inserted. Besides, it will become part of the **C3 Micro-Cloud** topic's database;

- **Content visibility:** Here the user can determine the visibility of his folder. There are two options:
  → **Public content:** Only users that have signed in to the **C3 Micro-Cloud** have access; or
  → **Private content:** Only the Learning Path creator and the **C3 Micro-Cloud** Administrator will have access to it.

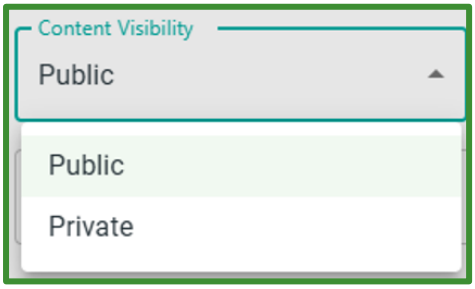


Figure 102: Learning Path Visibility Types

Important Note: All Learning Path inserted within a folder will inherit the grade, subject, and visibility level determined by it.

- **Thumbnail:** For each Learning Path it's possible to add a new thumbnail, just by clicking on **Choose File** button. Besides it's also possible to adjust its size within the card, just by clicking on **Thumbnail Size** options. Finally, the user also can change thumbnail's color, just by clicking on **Color** option.

The next step is to open the Learning Path card by clicking anywhere on it to access the Learning Path editor.

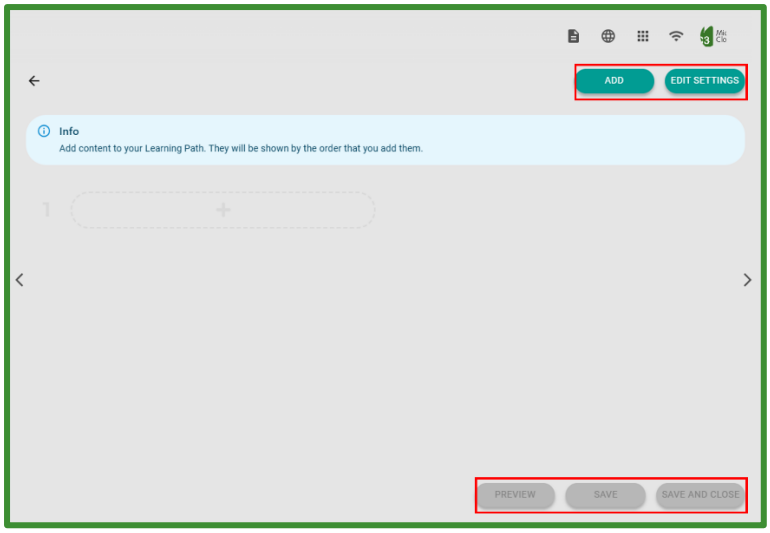


Figure 103: Learning Path Editor

When you access the Learning Path, you will be greeted with a page that displays the existing content (if any) that you have added to the Learning Path, along with options to rearrange the content, delete it, and add new content. We will now go through some examples.

First, it's important to note that the content that can be added to the Learning Path is content already available in your **C3 Micro-Cloud.**

Important Note: If you want to add content to your Learning Path that is not yet available in your **C3 Micro-Cloud**, you must first upload it to the 'Content' section of your **C3 Micro-Cloud**. If you're not sure how to do this, we recommend reading the 'Content' chapter of this document.

Now, let's see how to add content to the Learning Path. To do so, click the **ADD** button located in the top right corner of the screen. When you click this button, a box will open, displaying all the content currently in your **C3 Micro-Cloud.**

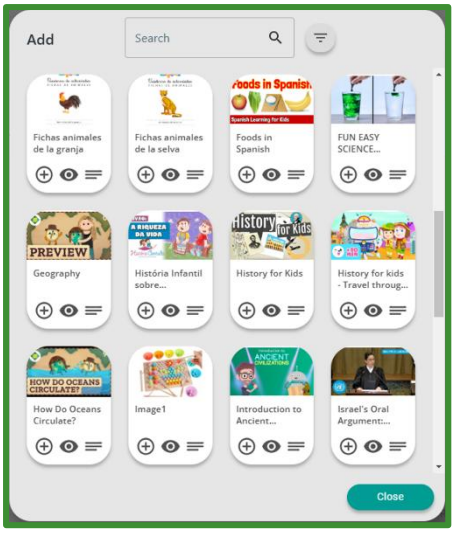


Figure 104: Learning Path Select Content to Add

Adding content to a Learning Path is very easy. Simply click on the + button located on each content card, and it will be automatically added. You can add as much content as necessary.

Content inside folders can also be added. To do this, just click on the desired folder, find the content you want to include in the Learning Path, and click on the **+** button.

Before adding content, you can preview it. Just click on the eye-shaped button to see a preview.

Important Note: If you want to add a specific Wikipedia article as part of your Learning Path, you must first select the Wikipedia content, click on the eye-shaped button (preview button), and navigate through it until you find the desired article. Then, click the + button to add it.

Finally, on the content card, you will notice the **Details** button. If you click on it, detailed information about the selected content will be shown.

Figure 105: Learning Path Content Cards to Add

Returning to the Learning Path main page, now with added content, you will notice that each content card has buttons allowing you to: edit the content's name and notes, delete the content, and change the order in which it appears.

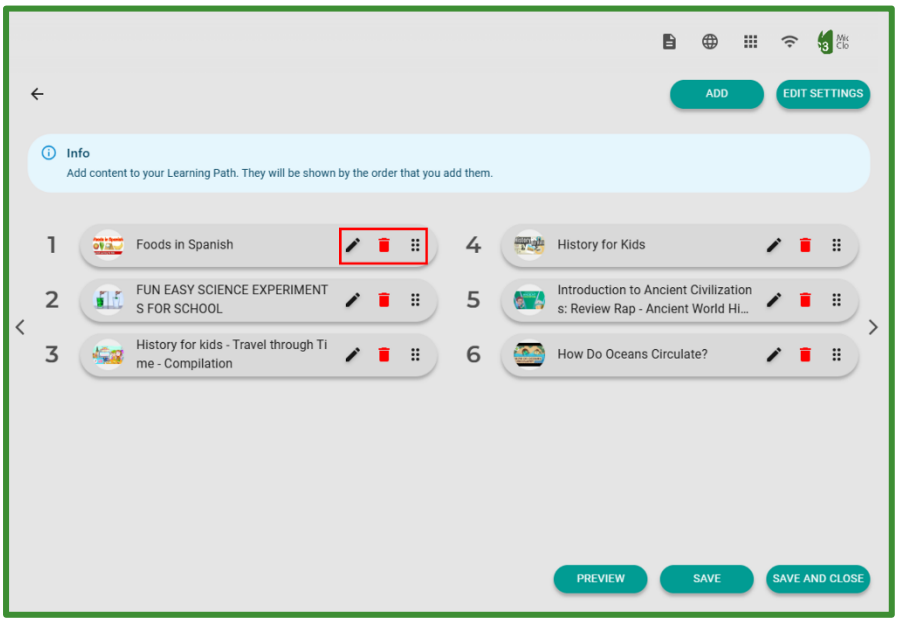


Figure 106: Learning Path with Content Added

If you click on the **Edit** button (pencil icon) of a specific content, a form will appear allowing you to change the content's name and notes.

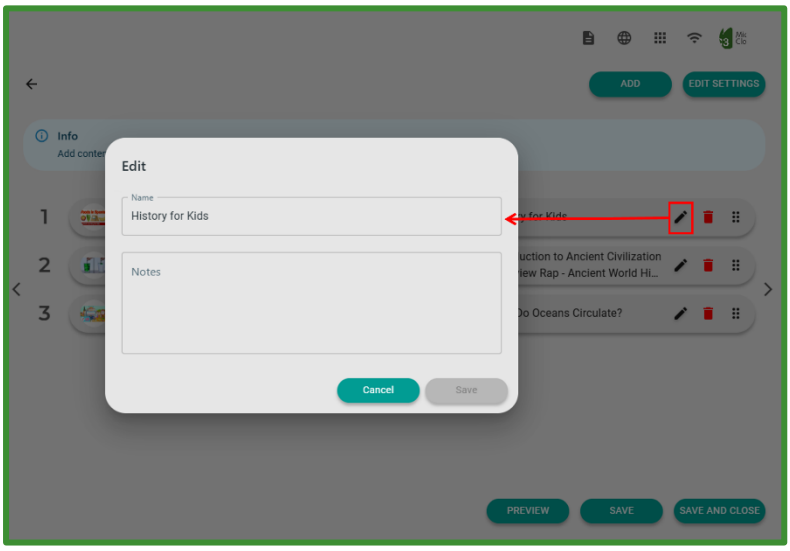


Figure 107: Learning Path Edit Content Button

"However, if you click on the **Delete** button (trash icon) of a specific content, a warning will appear to confirm that you want to proceed with the action.

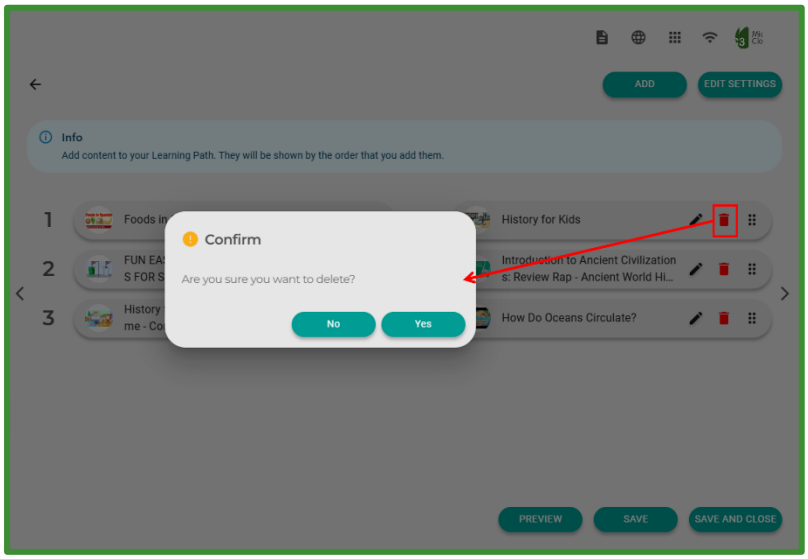


Figure 108: Learning Path Delete Warning

Additionally, you can also change the order (position) of the content. To do this, simply click on the **dots** next to the content you want to move and drag it to the desired position

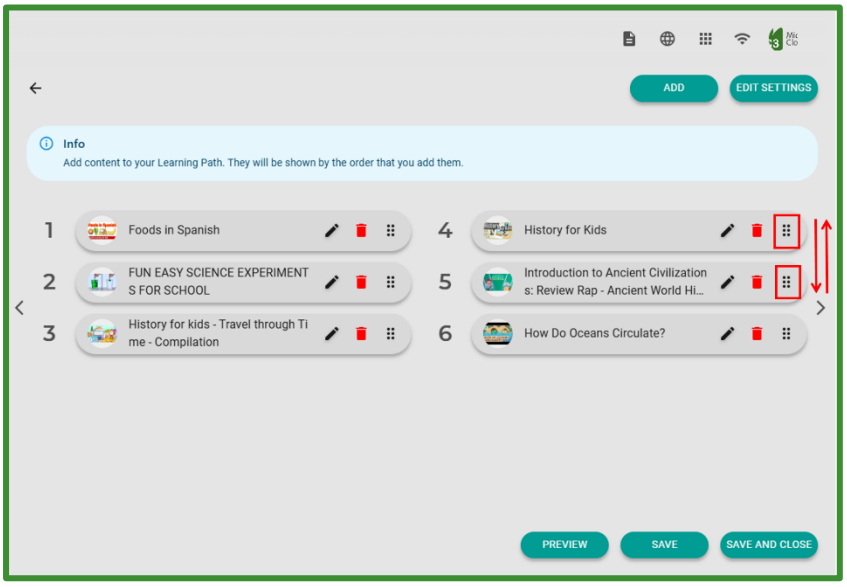


Figure 109: Learning Path Changing Page Position of Contents

However, if you click on the **Delete** button (trash icon) of a specific content, a warning will appear to confirm the action you are about to take.

8.3.3. Edit Settings Learning Path

Clicking on the **Edit Settings** button will open a form that allows the user to edit all the information of the Learning Path. This is the same form that was filled out during the Learning Path registration.

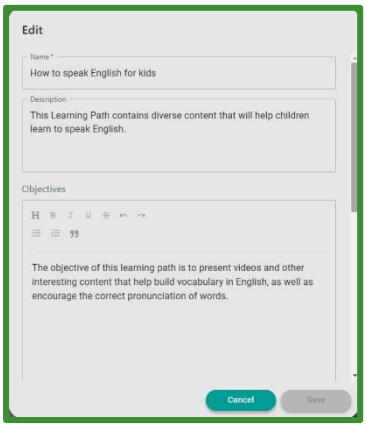


Figure 110: Learning Path Edit Settings

For more information about Learning Paths, refer to the offline video titled **'Learning Path'** located in the **'C3 Micro-Cloud Training Videos - English Version'** folder on the **C3 Micro-Cloud**. Alternatively, you can watch the video on the YouTube platform through the provided link:

https://youtu.be/n74SpEmvwOc?si=Sc-_dQDqRfJQ3tjw

9. Classes

Classes are used by teachers to interact with their students within a proposed theme, in addition to offering them Learning Path content. In this chapter, we will explore this important resource in detail.

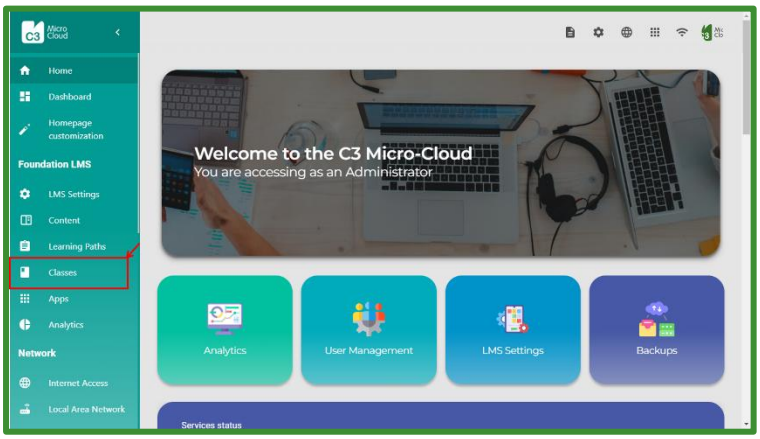


Figure 111: Class View

When we click on the 'Classes' option in the menu, the main Classes screen will be displayed.

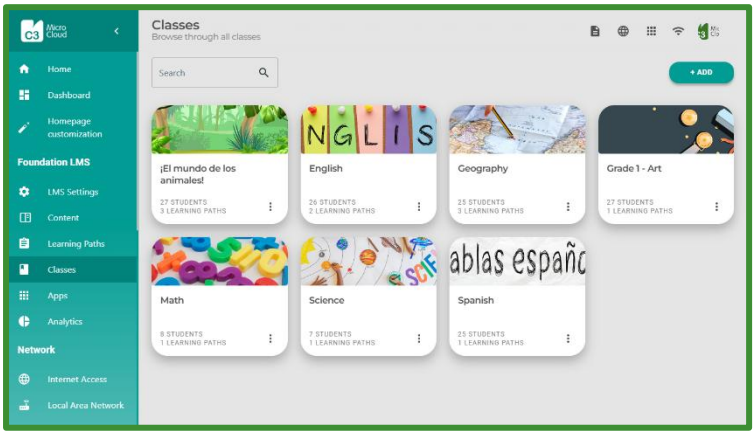


Figure 112: Class Main Page

A new class is created by clicking the **+ ADD** button in the upper right corner of the Classes page. Additionally, it is possible to search for specific classes. We will go over these procedures later in this chapter.

9.1. Class Search

Class search is performed using the search field located in the top left corner of the Classes page. This search feature helps users easily locate classes by name.

Figure 113: Class Search View

9.2. Add Class Button

Add Class button is located on the top right corner of the Class main page.

Figure 114: Add Class Button

Clicking on this button will open a box with a 'Name' field, where the teacher (or administrator) can enter a title for the class.

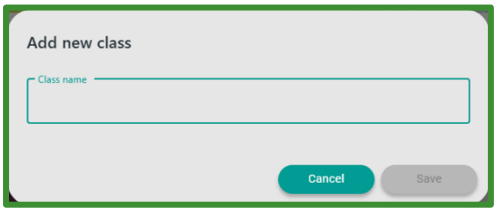


Figure 115: Adding Class Box

After give a title to his class, user must click on **Save** button.

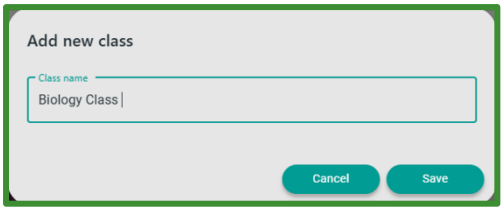


Figure 116: Adding Class Box Example

After clicking the **Save** button, the screen for the newly created class will automatically open. You can now populate it with Learning Paths.

Important Note: If you're not yet familiar with the Learning Path feature, we highly recommend viewing its dedicated chapter.

First, by clicking on the three dots on the right side of the banner, you will be presented with several options, such as:

- Upload banner;
- Select theme;
- Settings.

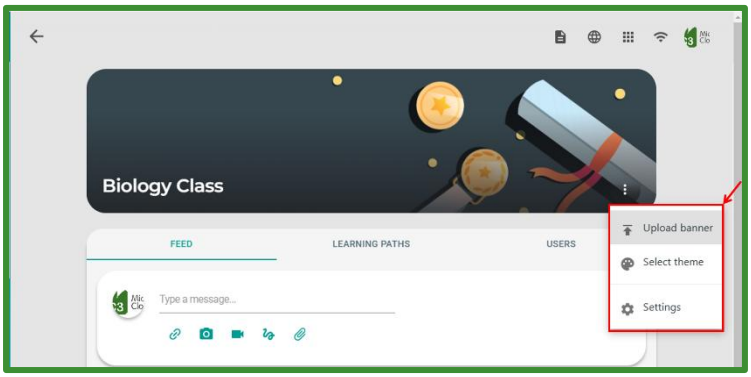


Figure 117: New Class Configuration

9.2.1. Add Class Banner

After clicking on the three dots on the right side of the banner and choosing the 'Upload Banner' option, you will be able to insert a banner of your choice. To do this, simply specify the location of the banner file on your device, or you can also drag and drop the file into the indicated area.

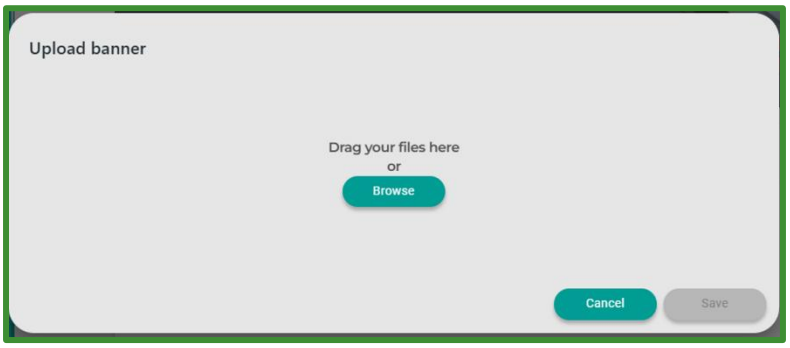


Figure 118: Add Class Banner

Banners are a way to personalize the appearance of your class.

9.2.2. Add Class Theme

After clicking on the three dots on the right side of the banner and selecting the '**Select theme**' option, you will be able to choose one of the predefined themes available on your **C3 Micro-Cloud**.

Figure 119: Add Class Theme

After selecting the theme, click on the **Save** button, and the theme will automatically be applied as your class image.

9.2.3. Settings

After clicking on the three dots on the right side of the banner and selecting the '**Settings**' option, a form will appear with the following configuration options for the user:

- **Name field;**
- **Description field;**
- **Feed:** this is where students can interact with the teacher and other classmates. Here teacher (or administrator) will have three options:
  → Students can post and comment;
  → Students can only comment;
  → Only teachers can post and comment.
- **Users:** this setting will determine the level of visibility among students in a class. Here we have three options:
  → Students can see no one;
  → Students can see other students;
  → Students can see everyone in the class.

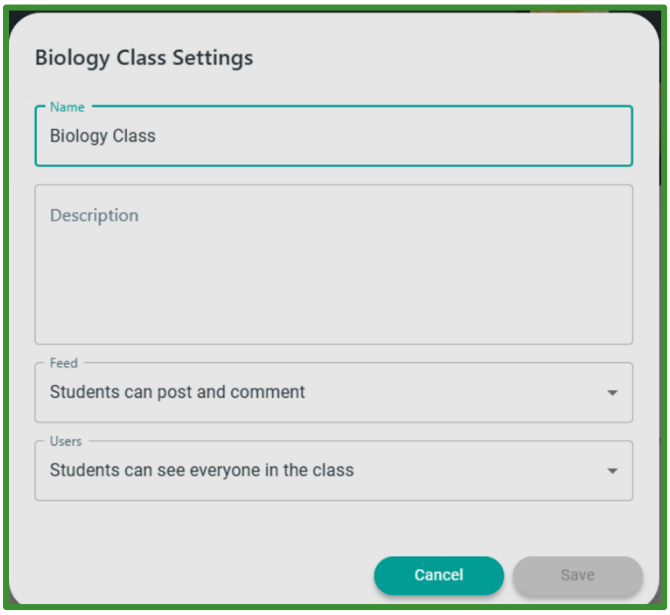


Figure 120: Settings Class

9.3 Feed

The Class feed is a great messaging tool for communication between students and teachers in a specific class. If students have been authorized (via the settings panel) to post on the feed, they will have access to the following resources:

- Add a link;
- Post a photo;
- Record a video;
- Draw something; or
- Attach a file.

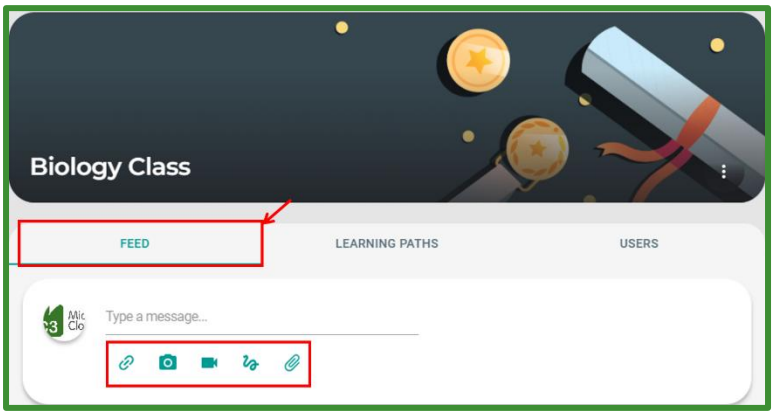


Figure 121: Settings Class

9.4 Learning Path

Content for classes is added through Learning Paths.

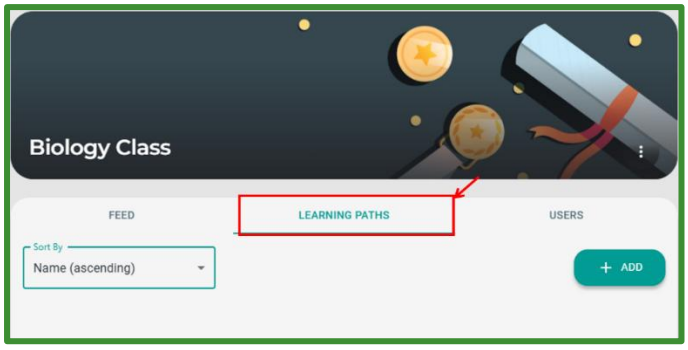


Figure 122: Class Learning Path

In the Learning Path tab, located in the upper left corner, there is an option to sort the Learning Paths in ascending or descending order based on the following options:

- Name;
- Created date; and
- Updated date.

To add Content (Learning Path) to class, simply click on the **ADD** button located in the top right corner of the screen.

When clicking on it, we will have two options:

- Add an existing Learning Path;
- Create a Learning Path from scratch.

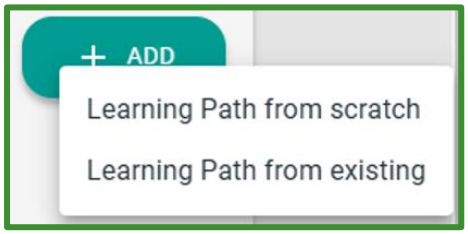


Figure 123: Add Learning Path Button Options

9.4.1. Create a Learning Path from Scratch

If we click on the **Create a Learning Path from scratch** option, a box will open to fill in the name of the Learning Path.

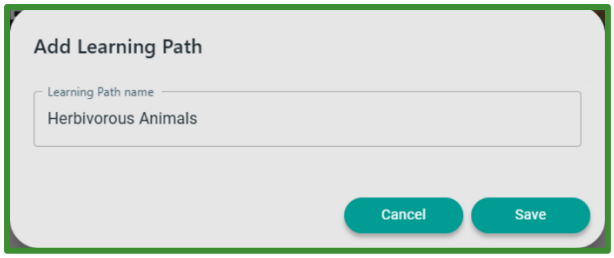


Figure 124: Create Learning Path from Scratch

After filling out the information, click on the **Save** button. You will be automatically redirected to the Learning Path tab, where you can find the item you just created. Click on the three dots located in the upper right corner of it.

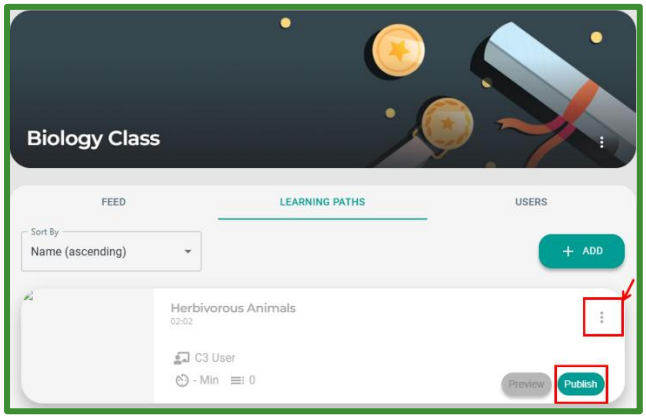


Figure 125: Class Learning Path Settings

The following options will be shown:

- **Publish:** To publish/activate the Learning Path, you can use the Publish button located on the Learning Path itself. Once the class content is configured with the Learning Paths, you can define whether each Learning Path will be available to the students. Learning Paths become visible to students only when they are published using the Publish button associated with each one. Until a Learning Path is published, it will not be visible when students access the class;
- **Preview:** Allows preview and will only be active after the Learning Path is published;
- **Export as a Learning Path:** Enables the Learning Path to become part of your **C3 Micro-Cloud** Learning Paths. In other words, when you access Learning Path menu, those that you created and exported, will be there;
- **Edit**: By clicking on this option, a new screen will be shown so that we can add existing content within your **C3 Micro-Cloud** to become part of your Learning Path, and it will also be possible to edit the information on your Learning Path form. **As this option requires greater detail, this will be done subsequently**;
- **Duplicate:** If the user clicks on this option, the learning path will be duplicated;
- **Delete:** If the user clicks on this option, the learning path will be deleted.

Now, let's learn how to add content to the Learning Path using the **Edit** option we discussed earlier. To do this, click on the **ADD** button located in the top right corner of the screen.

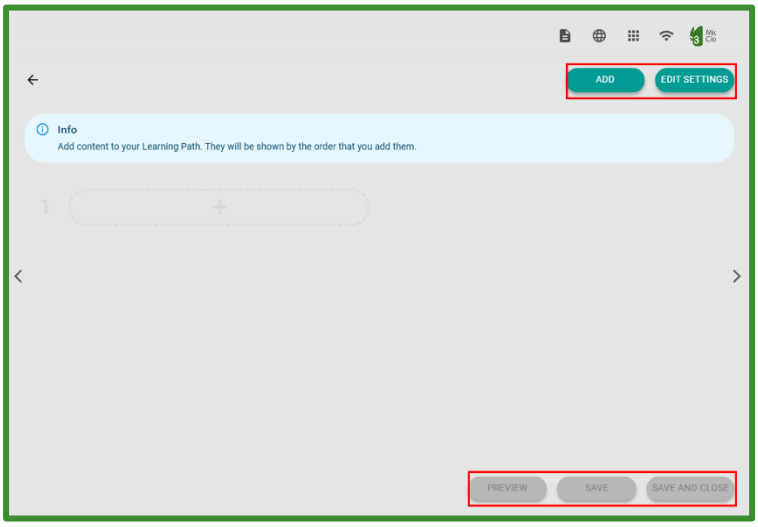


Figure 126: Learning Path Editor

When you click on the button, a box will open displaying all the content available in your **C3 Micro-Cloud**.

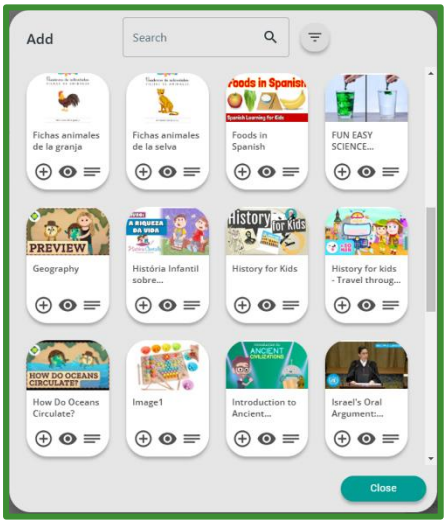


Figure 127: Learning Path Select Content to Add

Adding content to a Learning Path is simple. Just click the **+** button located on each content card, and it will be added automatically. You can add as much content as needed.

It is also possible to insert content stored inside folders. To do so, click on the desired folder, find the content you wish to add to the Learning Path, and click the **+** button.

Before adding content, you can preview it by clicking the eye-shaped button.

Important Note: If you want to add a specific Wikipedia article to your Learning Path, first select 'Wikipedia,' then click the eye-shaped button (preview button). Navigate through the article until you find the one you want, then press the + button to add it.

Additionally, on the content card, you'll find the **'Details'** button. Clicking on it will display information about the selected content.

Figure 128: Learning Path Content Cards to Add

Returning to the main page of the Learning Path, now with added content, you'll notice that each piece of content has buttons that allow you to: edit the content's name and notes, delete the content, and change the order in which it appears.

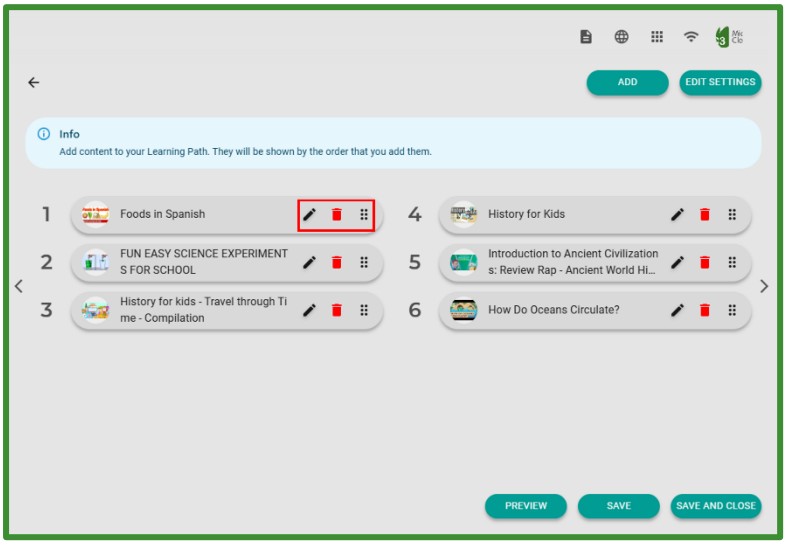


Figure 129: Learning Path with Content Added

If you click on the **Edit** button (represented by a pencil icon) for a specific piece of content, a form will appear, allowing you to modify the content's name and notes.

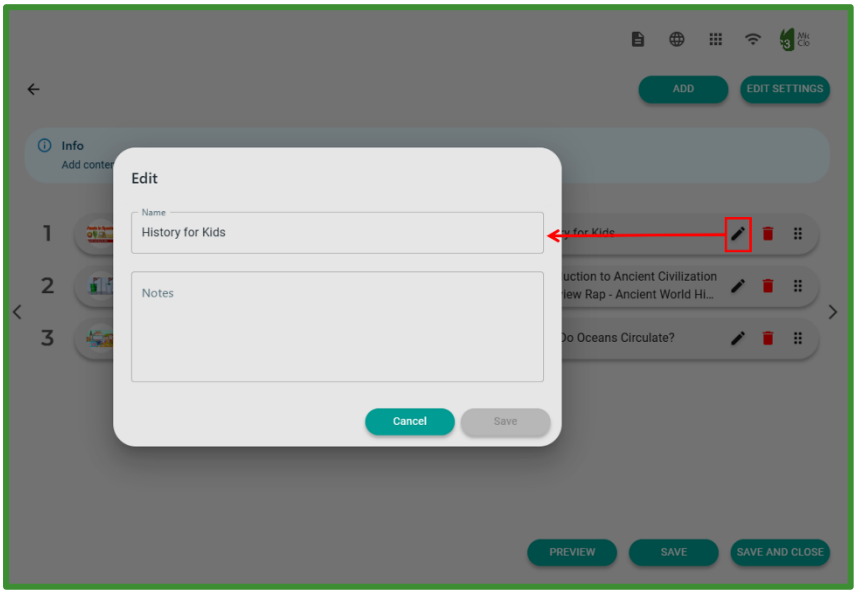


Figure 130: Learning Path with Content Added

However, if you click on the **Delete** button (represented by a trash icon) for a specific piece of content, a warning will appear, confirming that you want to proceed with the deletion.

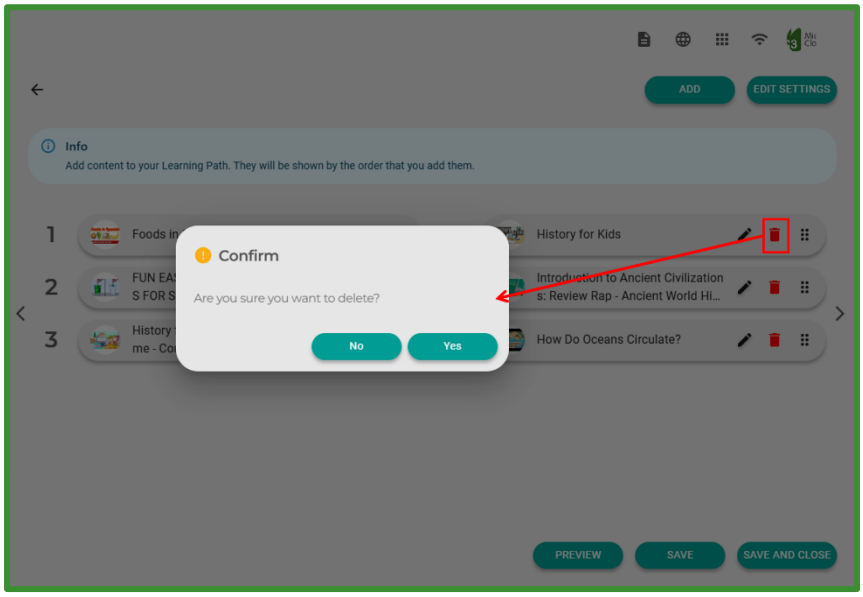


Figure 131: Learning Path Delete Warning

Additionally, you can change the order in which content appears. To do this, click on the **dots** next to the content you wish to move, and then drag it to the desired position.

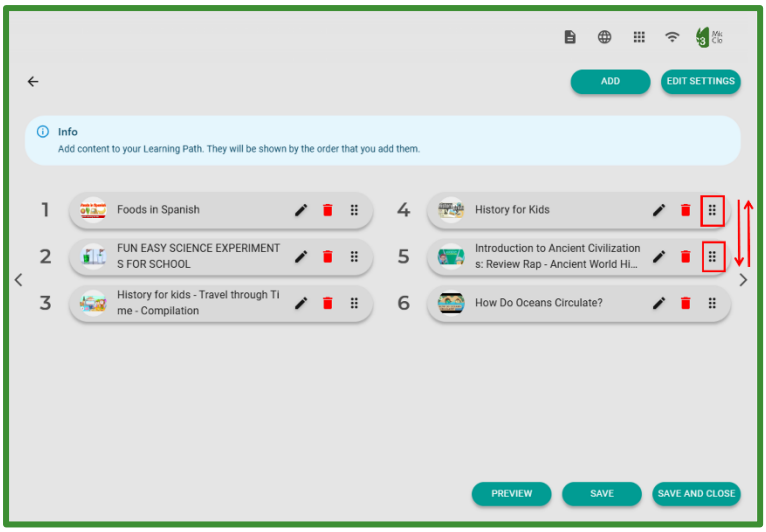


Figure 132: Learning Path Changing Page Position of Contents

Another button on the Learning Path page is **Edit Settings**. When clicked, a form will appear, allowing the user to edit all the information related to the Learning Path. This form is the same one used when initially registering the Learning Path.

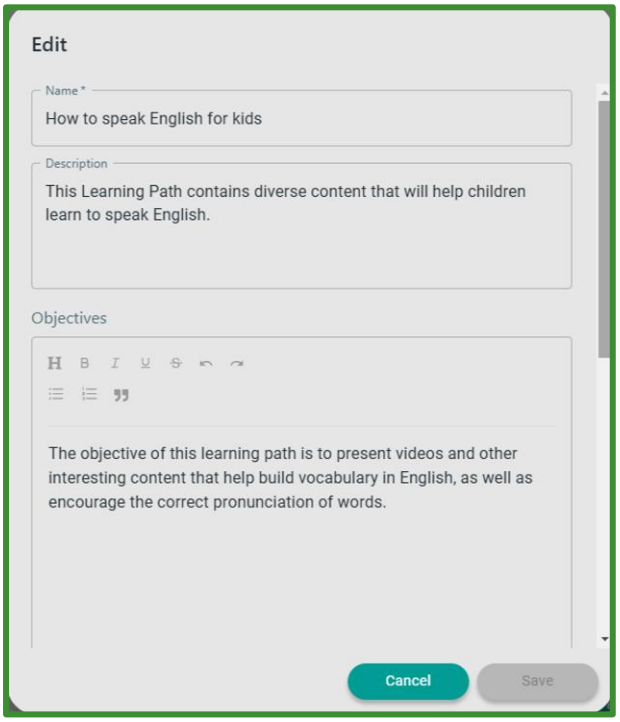


Figure 133: Learning Path Edit Settings

- **Name field:** Here user should put a name for his folder;
- **Description field:** If necessary, user can insert a description to clarify or give more details about his folder;
- **Grade:** Here the user will select which grade, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Subject:** Here the user will select which subject, previously registered in **C3 Micro-Cloud**, this folder will belong to;
- **Topics:** Here the user will select which topics, previously registered in **C3 Micro-Cloud**, this folder will belong to. But, in this specific case, if the user wants to insert topics that do not exist into the **C3 Micro-Cloud** yet, it's possible to write it in this field and then, it will be automatically inserted. Besides, it will become part of the **C3 Micro-Cloud** topic's database;
- **Content visibility:** Here the user can determine the visibility of his folder. There are two options:
  → **Public content:** Only users that have signed in to the **C3 Micro-Cloud** have access; or
  → **Private content:** Only the Learning Path creator and the **C3 Micro-Cloud** Administrator will have access to it.

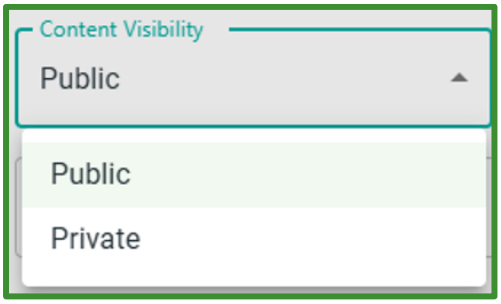


Figure 134: Learning Path Visibility Types

Important Note: All Learning Path inserted within a folder will inherit the grade, subject, and visibility level determined by it.

- **Thumbnail:** For each Learning Path it's possible to add a new thumbnail, just by clicking on **Choose File** button. Besides it's also possible to adjust its size within the card, just by clicking on **Thumbnail Size** options. Finally, the user also can change thumbnail's color, just by clicking on **Color** option.

9.4.2. Add a Learning Path from Existing

If we click on the **Existing Learning Path** option, all Learning Paths already available in your **C3 Micro-Cloud** will be displayed. Adding them to your class is easy—simply select the ones you want to include and click the **Confirm** button.

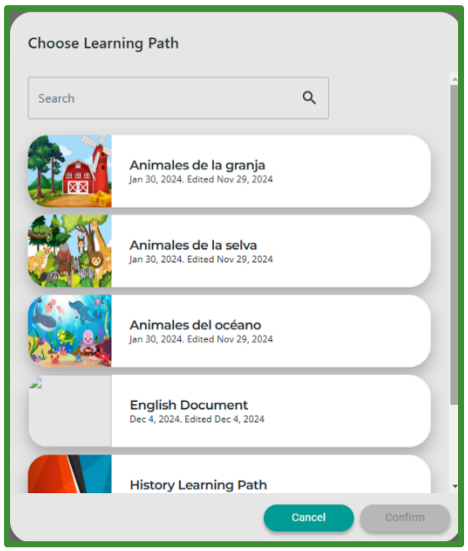


Figure 135: Adding Learning Path from Existing

9.5 Users

The third tab on the class page is for selecting the students and teachers to be assigned to the class. At the top of the page, you will find the **+ ADD STUDENTS** button. By scrolling down, you will also see the **+ ADD TEACHERS** button.

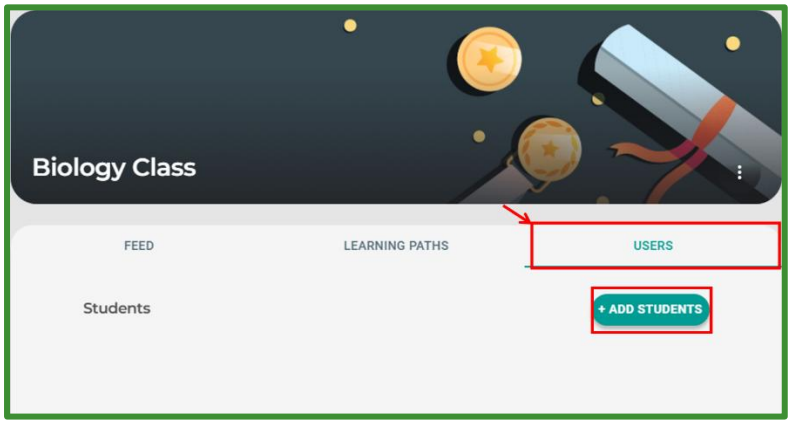


Figure 136: Add Class Students

Figure 137: Add Class Teachers

9.5.1. Add Students

When the user clicks on the **+ ADD STUDENTS** button, a box will appear showing all students registered on the **C3 Micro-Cloud.** You can add all students at once by selecting the box next to **'All Students'.**

Additionally, individual students can be selected by ticking the box next to their name. After making your selection, click the right-facing arrow between the two boxes to add the students to the class. To remove students from the class, simply select them in the right box and click the left-facing arrow.

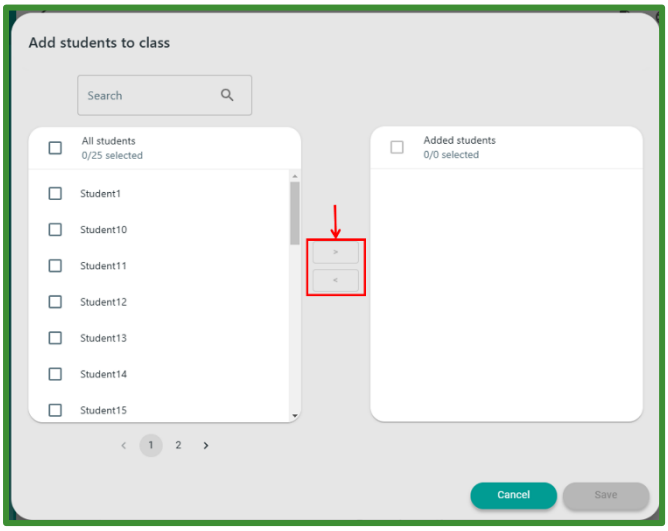


Figure 138: Add Class Students Box

9.5.2. Add Teachers

"When the user clicks on the **+ ADD TEACHERS** button, a box will appear showing all teachers registered on the **C3 Micro-Cloud.** You can add all teachers at once by selecting the box next to **'All Teachers'.**

Alternatively, individual teachers can be selected by ticking the box next to their name. After making your selection, click the right-facing arrow between the two boxes to add them to the class. To remove teachers from the class, select them in the right box and click the left-facing arrow.

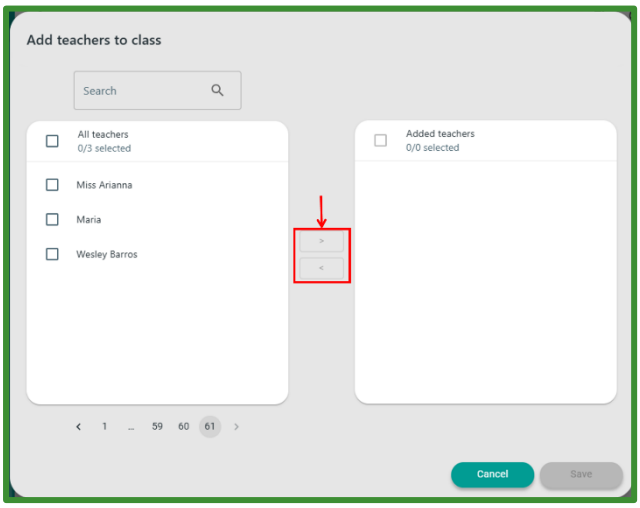


Figure 139: Add Class Teachers Box

For more information about **Classes**, refer to the offline video titled "**Classes**" located in the folder **"C3 Micro-Cloud Training Videos - English Version"** on the **C3 Micro-Cloud**.

Or watch the video on the YouTube platform through the provided link:

https://youtu.be/Q_b0G4Ku0kc?si=Bpjo9reLCzmNAQ4B

10. Apps

Apps are applications that the **C3 Micro-Cloud** receives from **C3 Cloud Control** and can be loaded locally. They appear in the Apps menu, similar to content cards. Clicking on an App, it will be loaded and started.

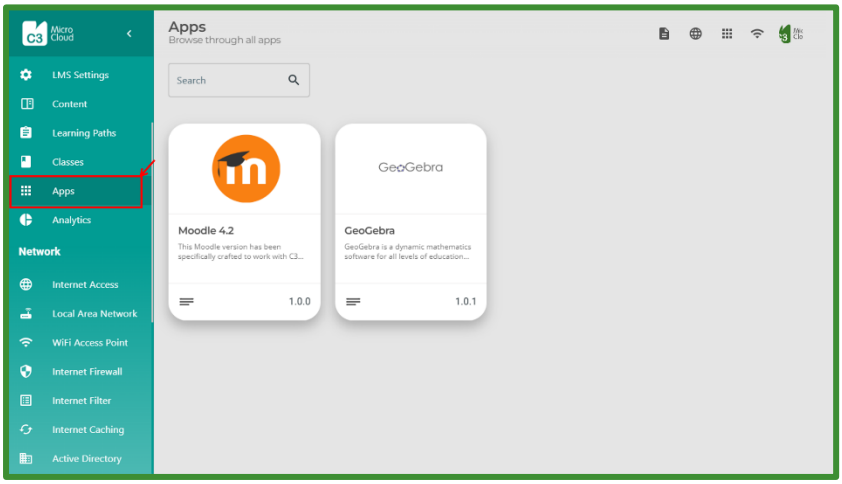


Figure 140: Apps view

Clicking on the 'Details' button in the lower left corner of the app card will open a side page..

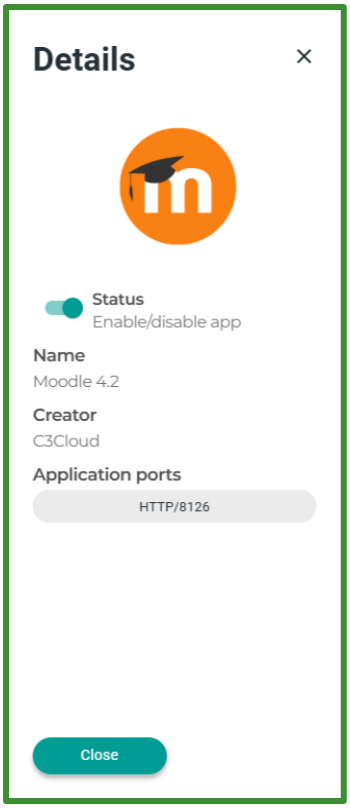


Figure 141: Apps Details

11. Analytics

The Analytics page provides a general overview of **C3 Micro-Cloud** usage, including content, learning path, user, and internet activity.

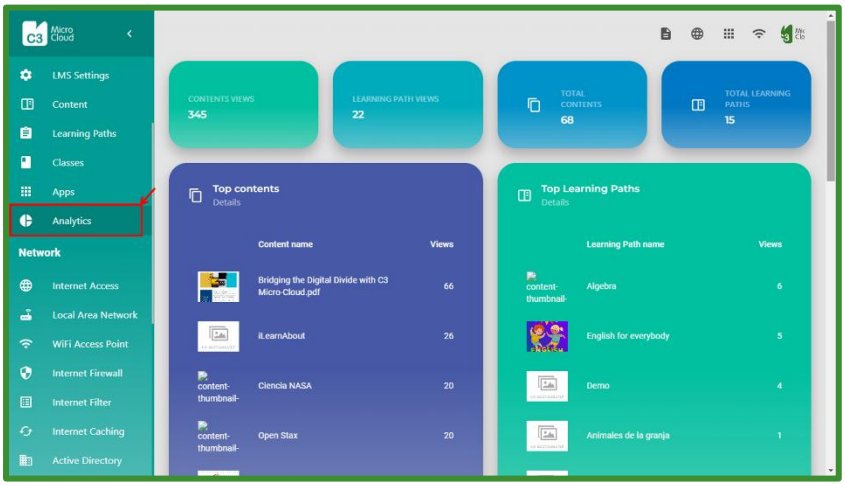


Figure 142: Analytics View

The top part of the page displays information about the total views and the number of views for both content and learning paths.

Figure 143: Analytics View

The next section provides details about which content and learning paths are viewed the most frequently.

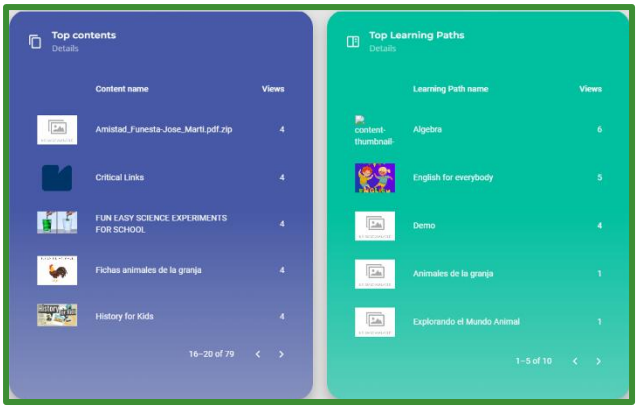


Figure 144: Analytics – Most Frequently Viewed Content and Learning Paths

The middle section of the Analytics page displays data regarding users in the **C3 Micro-Cloud.**

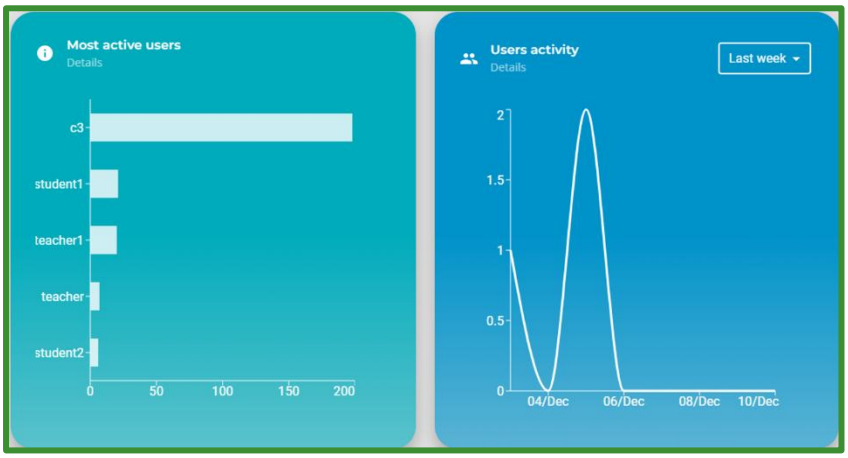


Figure 145: Analytics Users

It highlights the most active users in the **C3 Micro-Cloud**, along with the times they accessed the system. You can view this date-related information for either the past week or the past month.

The final section of the Analytics page presents data on the **C3 Micro-Cloud** Proxy Statistics.

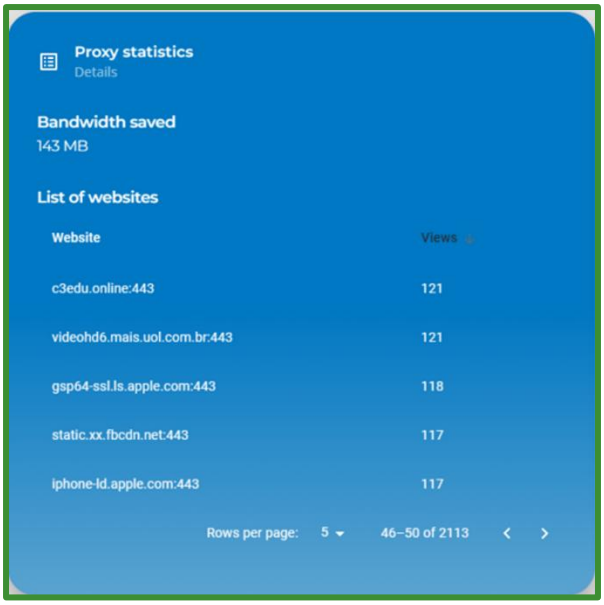


Figure 146: Analytics Proxy Statistics

The cache analysis provides a measure of how much internet data has been saved through the proxy action, as well as a list of the most frequently accessed websites. You can select a specific time interval to gather this data.

For more information about Analytics, refer to the offline video titled '**Analytics**,' located in the folder **'C3 Micro-Cloud Training Videos - English Version'** on the **C3 Micro-Cloud.**

Alternatively, watch the video on the YouTube platform through the provided link:

https://youtu.be/bwbDwcCG9xc?si=0FOY0qt3af1liKh9

12. Internet Access

To modify any of the default parameters provided with your device, you should have at least a basic understanding of network administration.

On this page, you can configure the WAN port of your **C3 Micro-Cloud.** This port is typically connected to the internet side of your network, provided that you have an active internet connection.

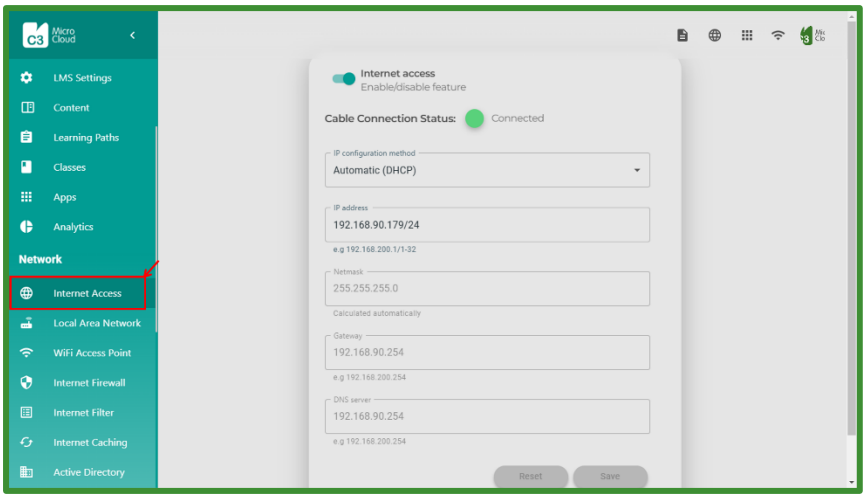


Figure 147: Internet Access View

This page allows you to configure your WAN connection in two ways:

- **Automatic (DHCP):** you have an active DHCP server in your network, and the **C3 Micro-Cloud** will automatically get an address from it;
- **Static:** You either don't have an active DHCP server in your network or you wish to manually assign an IP address to your **C3 Micro-Cloud** and all the other necessary settings for it to work correctly.

12.1. Automatic Internet Access

If you selected 'Automatic (DHCP)' for the IP configuration method, all the fields on this page will be automatically populated with details provided by the DHCP server in your network. If any of this information is missing, there could be a few reasons:

- The network cable was not connected, or it was connected to the wrong port on the **C3 Micro-Cloud.** Ensure that the cable is connected to the designated WAN port, especially if your device has two ports;
- Your network does not have a DHCP server;
- Your network has a DHCP server but it's not providing an IP address to the **C3 Micro-Cloud** (due to misconfiguration, security policies or other possibilities, you should check with a network administrator).

12.2. Static Internet Access

If you have selected "Static" for the IP configuration method then you need to provide all the information manually:

- **IP address:** The IP address that the **C3 Micro-Cloud** will have. It should be located inside the subnet of your network;
- **Netmask:** Network mask for the configured IP;
- **Gateway:** The IP address of the device that will provide internet access to the **C3 Micro-Cloud**;
- **DNS server:** Upstream server to provide DNS name resolution.

12.3. LTE Internet Access

If you have an LTE connection, continue with this section. Otherwise, go to sections 14.1"Automatic Internet Access" or 14.2 "Static Internet Access".

LTE (Long Term Evolution) is a high-speed mobile communication technology that enables wireless data transmission. It is the fourth generation of mobile network technology, **also known as 4G**. This feature allows the **C3 Micro-Cloud** to connect to the Internet with a data card (SIM card). **This makes it possible to use the Internet in places where there is no network infrastructure but there is a cellular data connection**.

Figure 148: LTE Internet Access

When you click on Internet Access through LTE, you will find three tabs:

- Settings;
- WAN;
- Mobile.

12.3.1. LTE Internet Access – Settings tab

On Settings tab you will see the connection status. It's important to keep the "Internet Access" option enabled. As it's possible to see, the **C3 Micro-Cloud** is connected to the Internet using its Mobile connection.

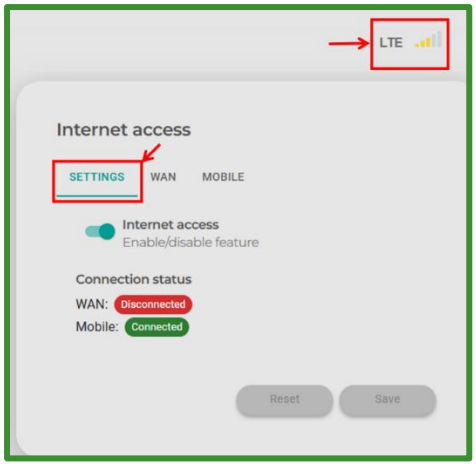


Figure 149: LTE Internet Access – Settings Tab

12.3.2. LTE Internet Access – WAN tab

Here, as our connection is via Mobile, this WAN connection tab will appear with "disconnected" status and fields: IP address, network mask, gateway and DNS server disabled.

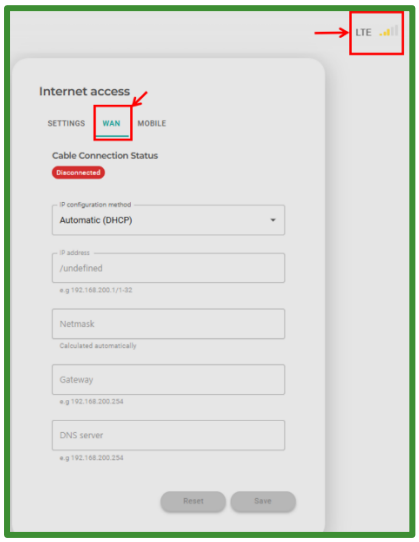


Figure 150: LTE Internet Access – WAN Tab

12.3.3. LTE Internet Access – Mobile tab

In the Mobile tab, you just need to click on "Enable Mobile Data". Nothing else needs to be filled in.

If you need to change anything, you will need to request this information from your local Internet service provider.

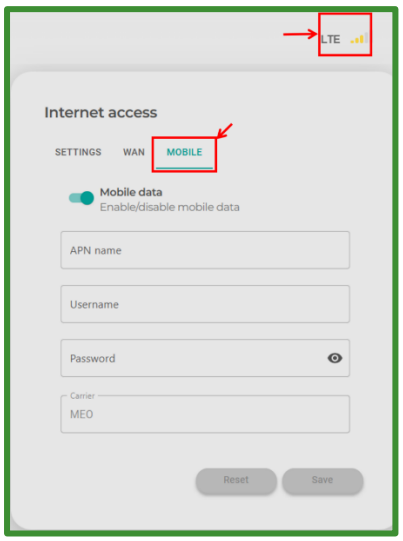


Figure 151: LTE Internet Access – Mobile Tab

13. Local Area Network

To make any changes to the default parameters provided with your device, a basic understanding of network administration is recommended.

This page allows you to configure the IP address and DHCP server settings for the Local Area Network (LAN) side of the **C3 Micro-Cloud**. Typically, this is the network side where you will connect the devices used by teachers and students, such as laptops, desktops, tablets, and smartphones.

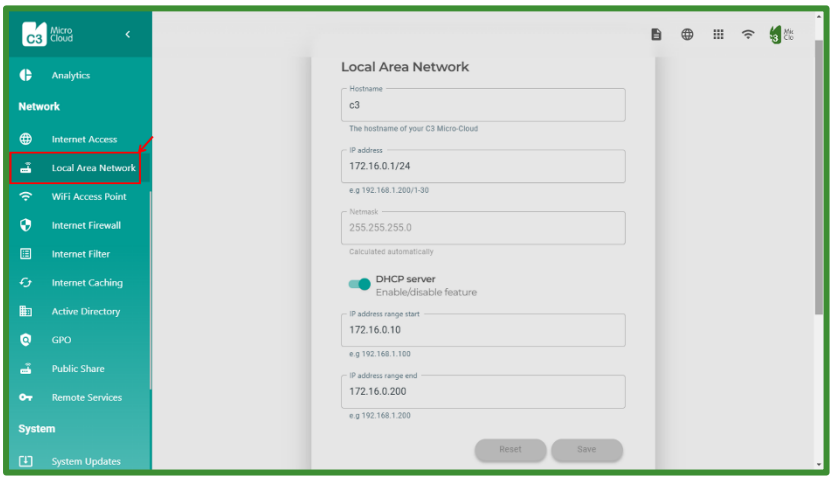


Figure 152: Local Area Network View

It is recommended to keep the default configuration unless a change is necessary. After making changes in any section, remember to click '**Save**' to confirm the new configuration.

Important Note: When altering the LAN IP address, ensure it **does not conflict with the WAN IP address** (typically provided by the upstream router or your Internet Service Provider).

The LAN configuration consists of the following items:

- **Hostname:** is a unique name that identifies a device connected to a network. It will be the name of your **C3 Micro-Cloud** host;
- **IP Address:** Internet Protocol (IP) is a set of numbers that identifies a device on the internet or a local network. It is a unique identifier;
- **Netmask:** is a 32-bit code that divides an IP address into networks and hosts, and which is fundamental to network communication.

Figure 153: Local Area Network: Hostname, IP, and Netmask

- **DHCP Server:** allows the enabling/disabling the LAN side DHCP server of the **C3 Micro-Cloud**, as well as the IP address range that will be offered to connected devices.
- **IP address range start and IP address range end:** is the range of all possible IP addresses on a network. For example, if the network is 10.10.10.0/255.255.255.0, the IP range start and end could be the address range between 10.10.10.150 and 10.10.10.200. It is a good practice to leave some LAN IP addresses out of the DHCP server configuration range so that it will be possible manually set a fixed IP address to any connected device that might require it.

Figure 154: DHCP Server Configuration

- **Captive Portal:** is a web page that allows you to control and manage internet access on public Wi-Fi networks. When enabled, users connected to the internet, via the **C3 Micro-Cloud** WiFi or LAN port, their browser will be redirected to the **C3 Micro-Cloud** main page, the first time they try to access the internet. The Captive portal configuration also allows the definition of how many users are allowed, up to 2.000.

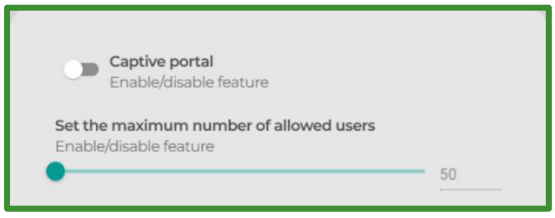


Figure 155: Captive Portal

14. Wifi Access Point

A basic understanding of network administration is recommended if you plan to modify any of the default parameters provided with your device.

If your **C3 Micro-Cloud** includes a Wi-Fi access point, this page will display all the relevant configuration options for your Access Point.

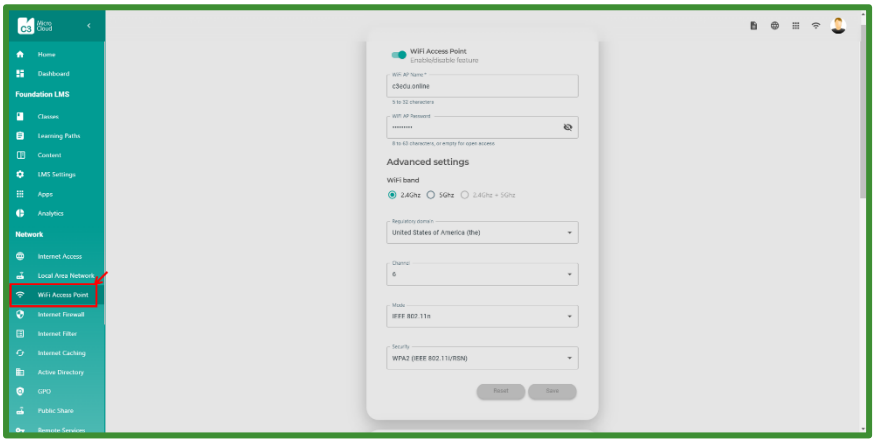


Figure 156: Wifi Access Point View

The **C3 Micro-Cloud** devices can currently ship with two types of Access Points, depending on the chosen configuration:

- WiFi 5 (802.11ac) Single Radio, Dual Band Access Point;
- WiFI 6 (802.11ax) Dual Radio, Dual Band Access Point.

Configurations will be adapted in accordance with the technology of your Access Point. If your **C3 Micro-Cloud** is not equipped with an Access Point, this page will indicate that.

Configuring Wireless settings always starting with the basic configuration options:

- Enabling or disabling the wifi access point;
- Setting the WiFi Ap Name: can be any name;
- Setting the WiFi Ap Password: must be between 8 and 63 characters.

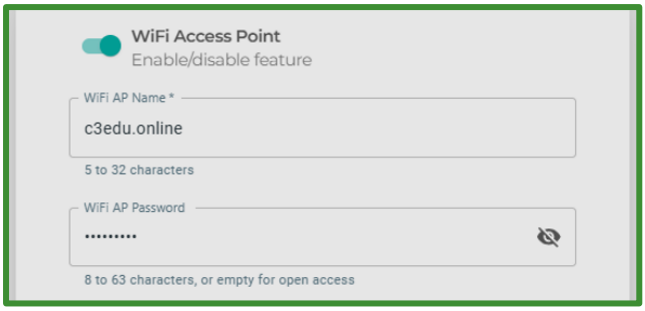


Figure 157: Basic WiFi Settings

Your **C3 Micro-Cloud**, by default, comes pre-configured with the following configuration settings:

- **WiFi Name**: c3edu.online
- **Password:** mydemokey

Next, we have the Advanced Settings for the Wi-Fi Access Point. In this section, you can adjust advanced settings related to the **C3 Micro-Cloud** Access Point:

- **Wi-Fi Band:** Choose between 2.4GHz, 5GHz, or 2.4GHz + 5GHz (available only for Wi-Fi 6 Access Points). 2.4GHz provides the most compatibility, especially for older devices, while 5GHz offers faster speeds but with a shorter range, provided your devices support it.
- **Regulatory Domain:** For optimal Wi-Fi compatibility, select the country in which your **C3 Micro-Cloud** is operating. This ensures the best channel selection.
- **Channel:** You can choose from a list of available channels for your country and the selected band. The "Auto" option will help detect the most optimal channel for your wireless environment.
- **Mode:** Choose the type of Access Point you wish to configure.
- **Security:** Select the security type for your Access Point. WPA2 is generally the most compatible and secure option.

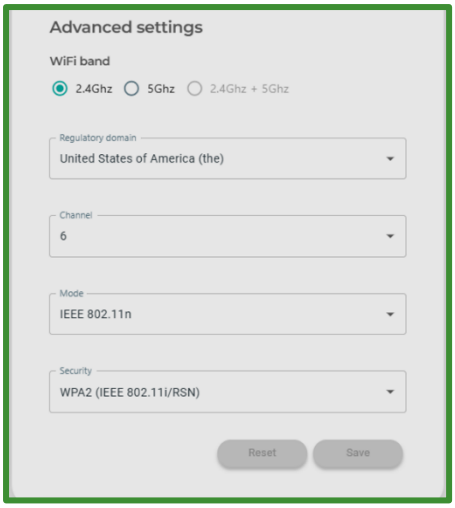


Figure 158: WiFi Advanced Settings

Additionally, continuing with the WiFi configuration, we now have the WPA Enterprise option. This is a security protocol that encrypts data transmitted over wireless networks, ensuring privacy. WPA Enterprise is a wireless authentication standard that provides enhanced security compared to WPA Personal.

In this section, you can connect your **C3 Micro-Cloud** to an external RADIUS server to enable username and password authentication for accessing the **C3 Micro-Cloud** Wi-Fi network:

- **Authentication Server Address**: The IP address if your Radius Server;
- **Authentication Server Password:** Password for your Radius Server;
- **Authentication Server Port**: The port where your Radius server is expecting connections.

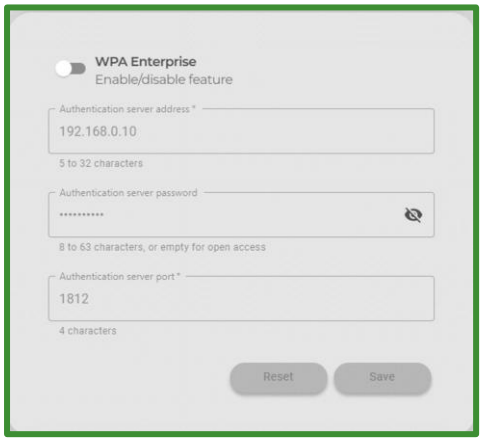


Figure 159: WPA Enterprise Configuration

Here, you can create an additional WiFi network with restricted access. This network has its own DHCP server enabled, providing IP addresses within an isolated local network. Devices connected to this Virtual SSID will not have access to the internet.

- **Virtual SSID name:** What name to assign to your Virtual Access Point;
- **Virtual SSID password:** Password to access this network;
- **Network visible:** If checked, the SSID will be publicly announced, meaning that the devices will be able to see this SSID when searching for WiFi networks. If this check box is disabled, users will have to manually add this network to their list of WiFi networks manually.

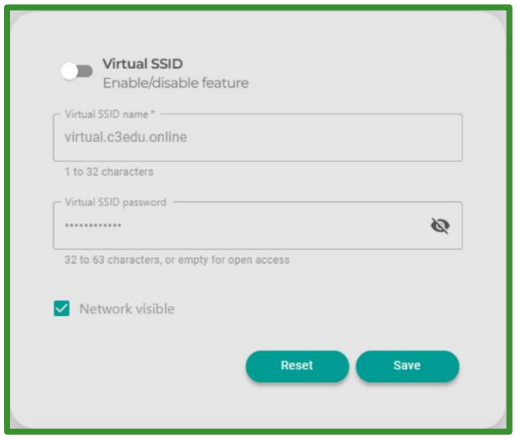


Figure 160: Virtual SSID Configuration

Scrolling to the bottom of the page, you'll find a list of stations connected to your **C3 Micro-Cloud** Access Point (if any). This section allows you to quickly view key information about the connected devices, such as:

- **MAC Address:** The MAC Address of each connected device;
- **Assigned IP Address:** This is the IP address assigned to each device and only shows up if you are using the **C3 Micro-Cloud** DHCP server;
- **Signal (%):** The strength of the WiFi connection with the **C3 Micro-Cloud;**
- **Mbps:** The current rate at which the device is connected to the **C3 Micro-Cloud** Access Point.

15. Internet Firewall

A basic understanding of network administration is recommended if you intend to modify any of the default parameters provisioned with your device.

The Firewall page manages WAN-originated access to your **C3 Micro-Cloud** and is enabled by default. It includes a list of pre-defined services that are commonly used by the device. By default, the **C3 Micro-Cloud** Firewall denies all external connection attempts, unless explicitly allowed by enabling the relevant service in the firewall.

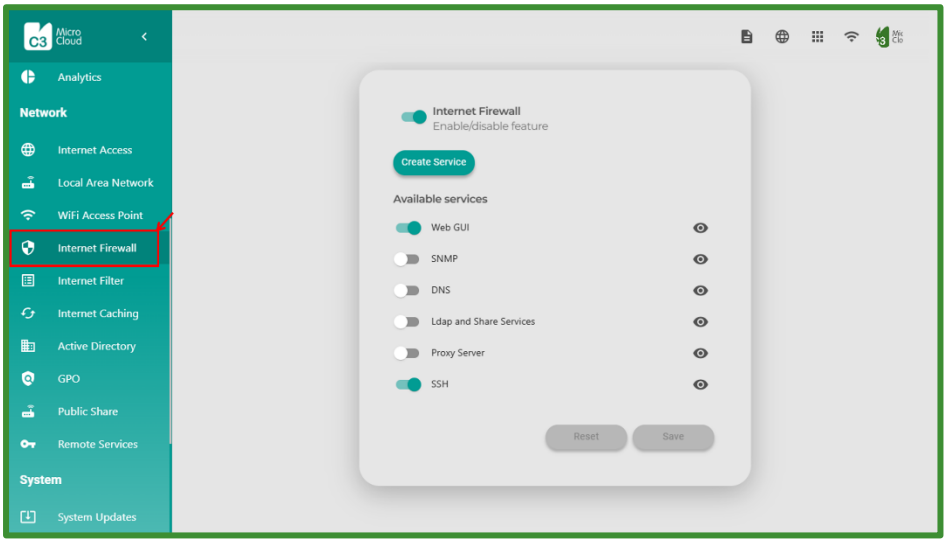


Figure 161: Virewall View

15.1. Default Firewall Services

The default firewall services that come pre-configured are the following:

- **Web GUI (activated by default to allow external access to the C3 Micro-Cloud):** Is the firewall's Graphics User Interface;
- **SNMP (Simple Network Management Protocol):** Is a network management protocol that allows you to monitor and manage network devices, such as servers, routers, switches and storages;
- **DNS (Domain Name Service):** is a security tool that monitors and filters DNS traffic to protect users and IT environments from threats. DNS is the system that translates domain names, such as "example.com", into IP addresses;
- **Ldap (Lightweight Directory Access Protocol) and Share Services**;

- **Proxy Server:** Is a network security system that acts as an intermediary between the client and the internet server;
- **SSH (Secure Shell):** Is a network protocol that uses encryption to ensure the security of connections between devices and the exchange of files between client and server.

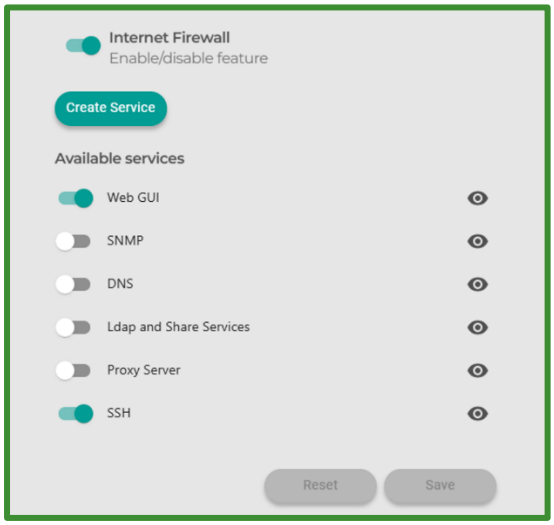


Figure 162: Default Firewall Services

15.2. Additional Firewall Services

If needed, additional services can be configured into the firewall, selecting the **Create Service** button.

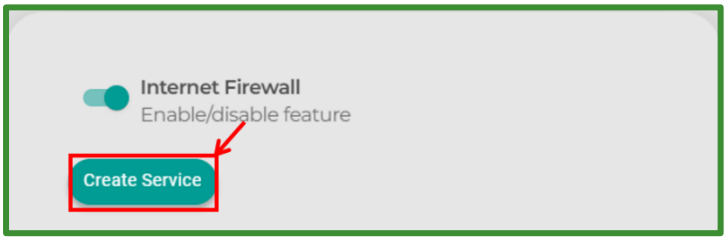


Figure 163: Create Service Button

When you do this, a box will open allowing you to enter the name of your **new service**. After that, click on the **'Add Port'** button and choose between the following options: **'Single Port'** or **'Port Range'**

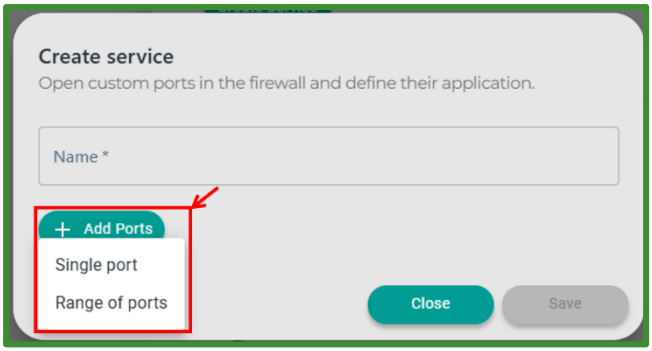


Figure 164: Firewall Add Port Button

The create a new service, a service name is mandatory, and the ports to be opened are also required, as well as the protocol (TCP or UPD). Ports/protocol pairs can be opened in a range or individually one by one, using the option **Single Port** or **Range of Ports**.

If a specific port or range of ports is already open for another service, it cannot be assigned to a new service. In such cases, the option is to sequentially open multiple port ranges to meet the requirements of the service being created.

Just to remember

C3 Firewall Features:

- Enable/Disable the firewall system wide;
- Blocks WAN access by default;
- Selectively enable ports/services to be accessible from the WAN port;
- Configurable by port or port range;
- Session tracking for NAT clients;
- Hides internal IP addresses from the Internet;
- Limits multiple connection attempts to prevent DDoS attacks;
- Internally leverages IPTables and UFW;
- Available command line interface for advanced configurations;

16. Internet Filter

A basic understanding of network administration is required if you wish to modify any of the default parameters provided with your device. This **C3 Micro-Cloud** feature allows you to control two distinct functionalities that can be applied to all internet traffic passing through your **C3 Micro-Cloud:**

- **Internet Web Filtering:** It allows you to control which websites can be accessed by your users or which websites are actively blocked;
- **Internet Bandwidth Filtering:** It allows you to limit the amount of internet bandwidth that is available to your users.

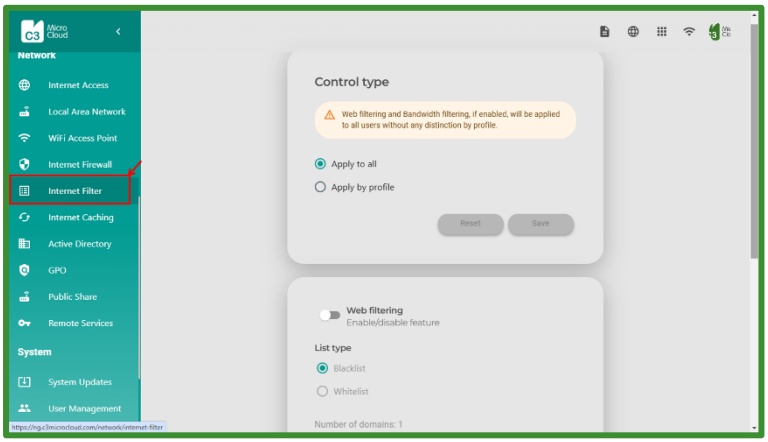


Figure 165: Internet Filter View

16.1. Control Type

The process begins by choosing how to apply these features to your users. You have two options to select from:

- **Apply to all:** No differentiation will be applied to your users. They will all face the same restrictions applied even if they belong to different user profiles;

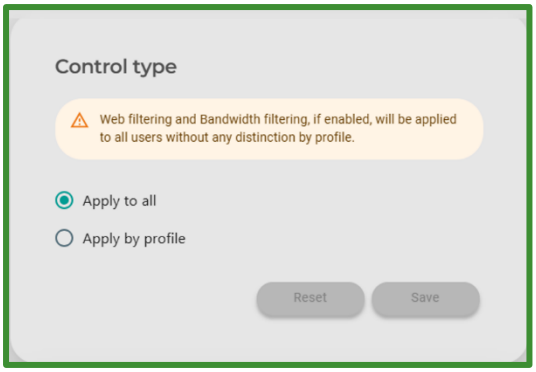


Figure 166: Internet Filter - Apply to all Control

- **By profile:** This will require that your users configure the proxy to be used (the **C3 Micro-Cloud** provides an automatic proxy configuration script) and they will be prompted to insert their username and password before they are allowed to access the internet. When selecting **By Profile** options, your users need to have a username and password assigned to them, and they need to be created using the User Management feature of the **C3 Micro-Cloud**.

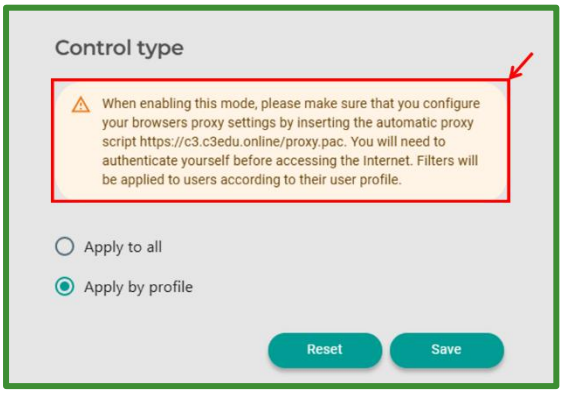


Figure 167: Internet Filter - By Profile Control

Remember: if you are configuring the internet filter by Profile, you will need to manually configure your web browser to use a proxy. The easiest way to do this is by setting up your browser with an automatic proxy configuration script. The **C3 Micro-Cloud** provides the following automatic proxy configuration script:

- **https://c3.c3edu.online/proxy.pac**

Alternatively, you can configure the proxy without using an automatic proxy configuration script by using the following information:

- **Address:** c3.c3edu.online
- **Port:** 3128

These settings shall be applied to HTTP, HTTPS and FTP proxy settings.

16.2. Web Filtering

The Internet Web Filtering feature allows the filtering of specific internet content based on its URL. Filtering can be applied to all **C3 Micro-Cloud** users or specifically to one or more user profiles. If enabled, two types of filtering can be implemented:

- By a **blacklist:** where all URL's will be allowed, except those that are in the list;

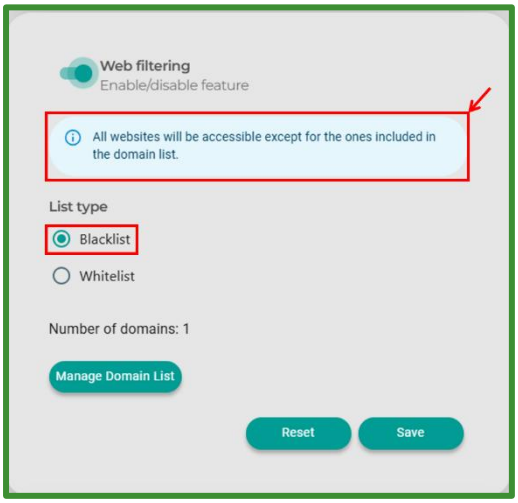


Figure 168: Internet Filter - Blacklist

- By a **whitelist:** where only the URL's written on the list will be allowed;

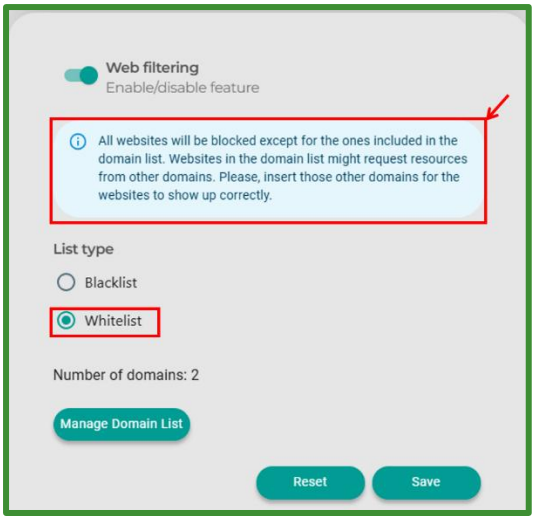


Figure 169: Internet Filter: Whitelist

In both cases (blacklist or whitelist), to configure these lists, simply click on the **Add ADomains** button.

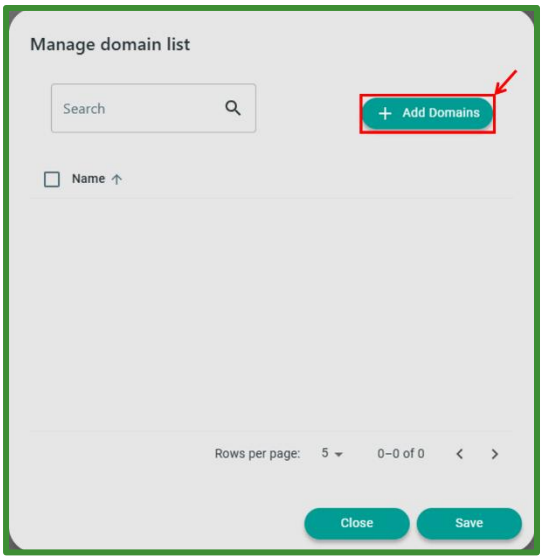


Figure 170: Internet Filter - Add Domains Button

A new box will open, allowing you to add domains to be either blocked or released. You have the following options: either type the domains one by one or import a list using the 'import sites' button in .txt format, where each URL must be written on a separate line.

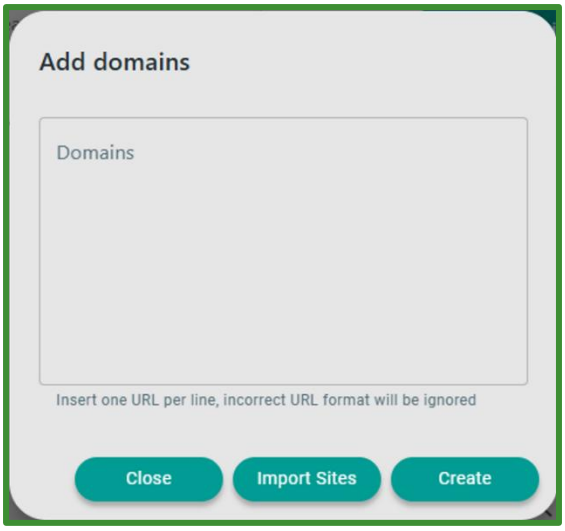


Figure 171: Internet Filter - Adding Domains

Selecting one or more specific domains in the associated selection box allows you to delete them. **Important Note**: When adding domains, please omit the 'www' part of the URL. For example, if you want to add YouTube to the list, you must add **'youtube.com'** instead of 'www.youtube.com'. This rule applies to all domains.

16.3. Bandwidth Filtering

Scrolling down the page, you will find the Bandwidth Filter. Along with the Control Type configuration, the Bandwidth Filtering feature on the **C3 Micro-Cloud** is applied to either all users or specific user profiles. In other words, the Bandwidth Filtering will depend directly on the **Control Type** setting. If the **Control Type** is set for all profiles, then the Bandwidth Filter will also apply to all. However, if the **Control Type** is set per profile, the Bandwidth Filter will be applied individually to each profile.

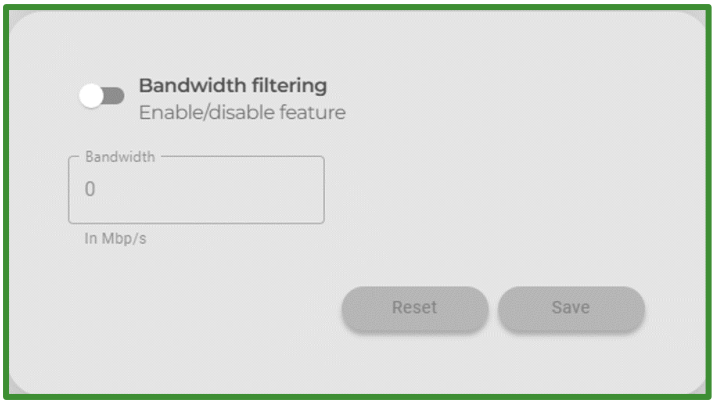


Figure 172: Bandwidth Filtering - Apply to All

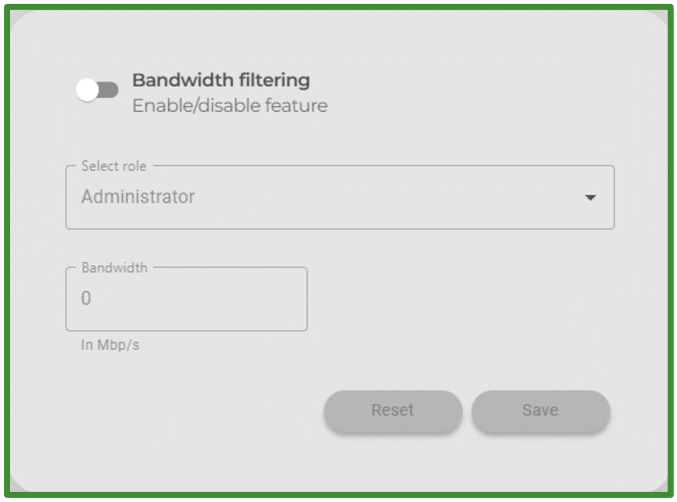


Figure 173: Bandwidth Filtering - Apply by profile

When configured for all users, you only need to set the required bandwidth limit. When configured per profile, you will need to set a bandwidth limit for each user profile individually. Setting the bandwidth to zero will remove the bandwidth filtering action, whether it's applied to all users or per profile.

Important Note: If filtering is configured per profile, the Bandwidth Filtering feature also requires the proxy configuration, as described earlier.

For more information about **Internet Filter - Default Settings**, refer to the offline video titled "**Internet Filter - Default Settings" located** in the folder **"C3 Micro-Cloud Training Videos - English Version"** on the **C3 Micro-Cloud**.

Or watch the video on the YouTube platform through the provided link:

https://youtu.be/nTl4z3zHECk?si=e9lYqU6QyrNy_AF4

For more information about How to Configure the **Internet Filter - Advanced Settings**, refer to the offline video titled "**How to Configure the Internet Filter - Advanced Settings“** located in the folder **“C3 Micro-Cloud Training Videos - English Version”** on the **C3 Micro-Cloud**.

Or watch the video on the YouTube platform through the provided link:

https://youtu.be/ISHQNrhcAsY?si=bPayqFA_xsk3EaNL

17. Internet Caching

Here, you should have at least a basic understanding of network administration if you want to change any of the default parameters that were provisioned with your device.

The **C3 Micro-Cloud** is capable of internally caching internet content to reduce internet usage when the same internet sites are repeatedly accessed by **C3 Micro-Cloud** users.

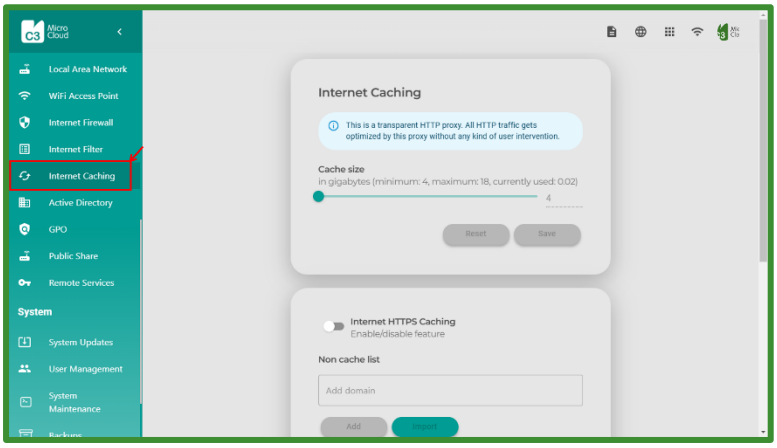


Figure 174: Internet Caching View

The cache is continuously running. Configuration option is the cache size which can be set up to 65GB. When changing, the **C3 Micro-Cloud** disk space availability should be taken into consideration.

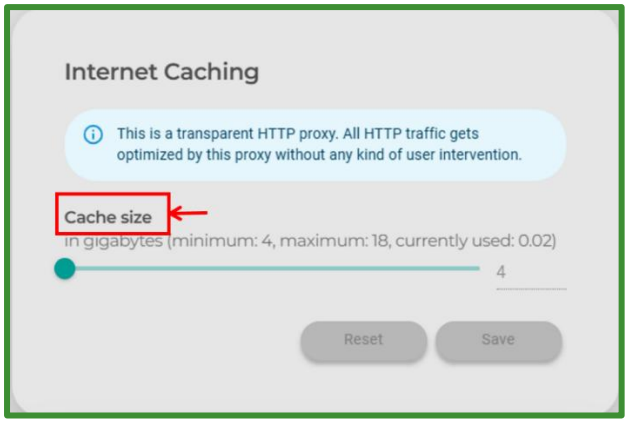


Figure 175: Internet Caching Size

After doing any changes, click **Save** to confirm the new configuration.

Scrolling down the page a little we find Internet HTTPS Caching. The **C3 Micro-Cloud** supports the caching of HTTPS sites.

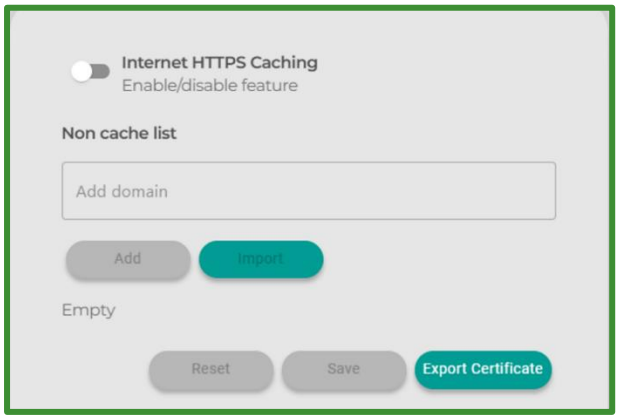


Figure 176: Internet Caching HTTPS

After enabling HTTPS, all HTTPS content will be cached on the **C3 Micro-Cloud**. It is possible to avoid caching for specific domains, adding, one by one or importing from a text file, to the Non-Cache list. When all is done click Save to store the configuration.

In order for this feature to work without security warnings from the user device browser, it will be necessary to download (export) and install the **C3 Micro-Cloud** proxy security certificate, before using this feature.

Clicking on **Export Certificate** button the certificate is downloaded to your device. The certificate must then be imported into the user device.

In Windows machines, the certificate should be imported into the **Trusted Root Certification Authorities** folder. The certificate import program can be easily started by accessing the command line (cmd) and then typing certlm.

If using Firefox, the certificate should be imported directly in Firefox Option menus (search for certificates).

Important Note: If you activate this feature, make sure that the connected computers/tablets have the custom certificate installed or otherwise they will see constant security warnings.

Scrolling the page to the end, we find The Intelligent Video Caching feature. It is designed to save considerable internet bandwidth and data usage, when multiple users watch the same videos from the internet. It can be enabled in the screen below.

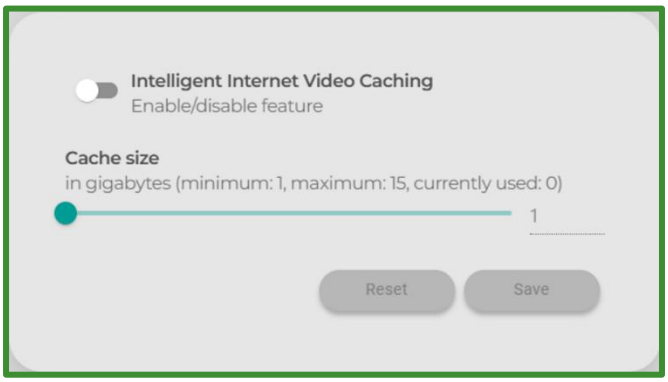


Figure 177: Internet Cache Video

After enabling the feature, it is possible to increase the cache size up to 21GB. Clicking **Save** will store the configuration.

Important Note: Enabling Intelligent Video Caching also activates HTTPS caching. Therefore, the instructions above for downloading and installing the certificate apply to this feature as well. If you disable Intelligent Video Caching, be sure to also disable HTTPS caching if it is not needed.

18. Active Directory

You should have at least a basic understanding of network administration before modifying any of the default parameters provisioned with your device.

On this page, you can configure various settings related to the Active Directory features of the **C3 Micro-Cloud.**

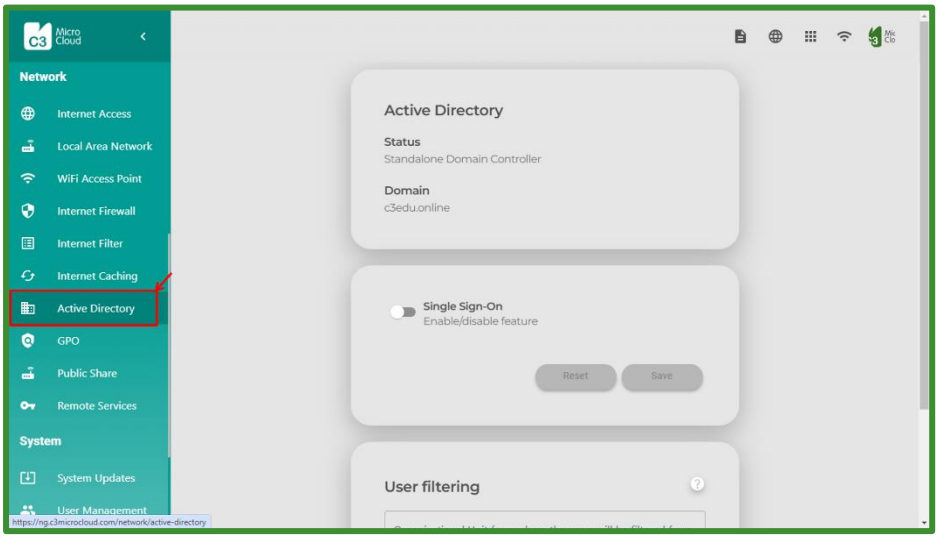


Figure 178: Active Directory

The first section displays the status and domain of the Active Directory in use.

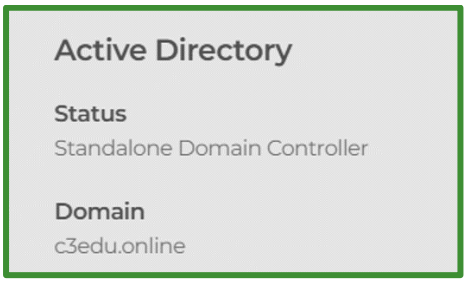


Figure 179: Active Directory Status and Domain

The second section allows you to enable Single Sign-On (SSO) on the **C3 Micro-Cloud**.

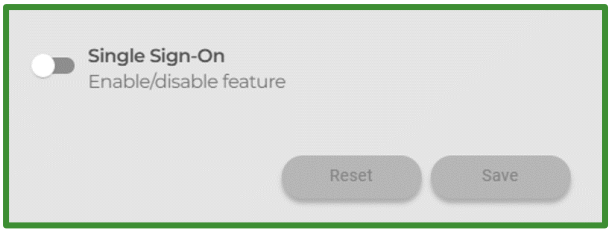


Figure 180: Active Directory SSO

The final section enables user filtering on the Active Directory side, effectively disabling user management capabilities within the **C3 Micro-Cloud.**

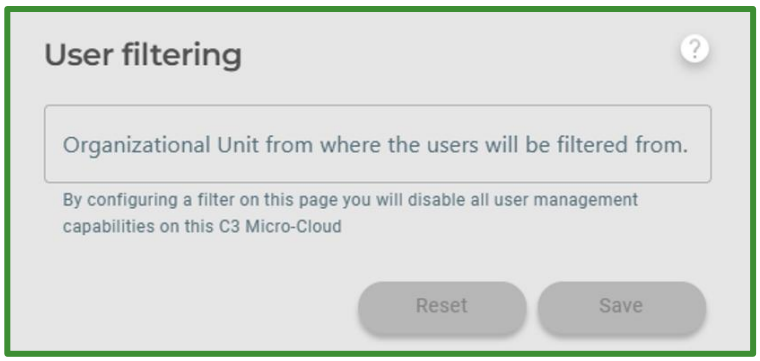


Figure 181: Active Directory User Filtering

19. Group Policy Objects – GPO

You should have at least a basic understanding of network administration before modifying any of the default parameters provisioned with your device.

This page allows you to assign Group Policy Objects (GPOs) to C3 Micro-Cloud user profiles. To fully utilize this feature, third-party tools such as Windows RSAT are required to create and manage the GPOs. Additionally, student and teacher laptops must be fully enrolled in the **C3 Micro-Cloud** Active Directory.

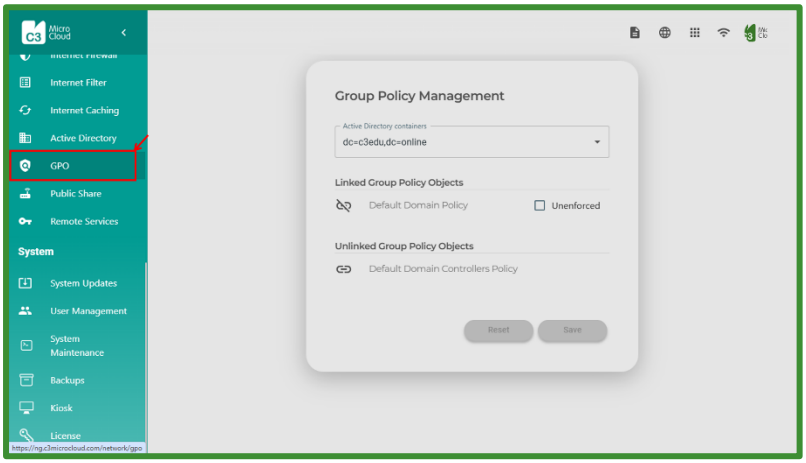


Figure 182: Group Policy Objects View

After creating one or more GPOs, they will show up in this page in a list. They can then be selected and applied to the different available user profiles.

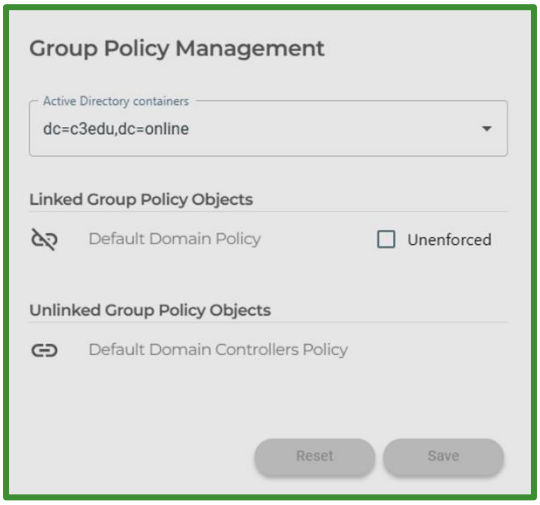


Figure 183: Group Policy Objects Management

20. Public Share

Here you should have at least a basic understanding of network administration if you want to change any of the default parameters that were provisioned with your device.

This page will allow you to enable a **C3 Micro-Cloud** public share. This uses Windows Samba protocol, so that it can easily be accessed using a Windows, Mac or Linux computer.

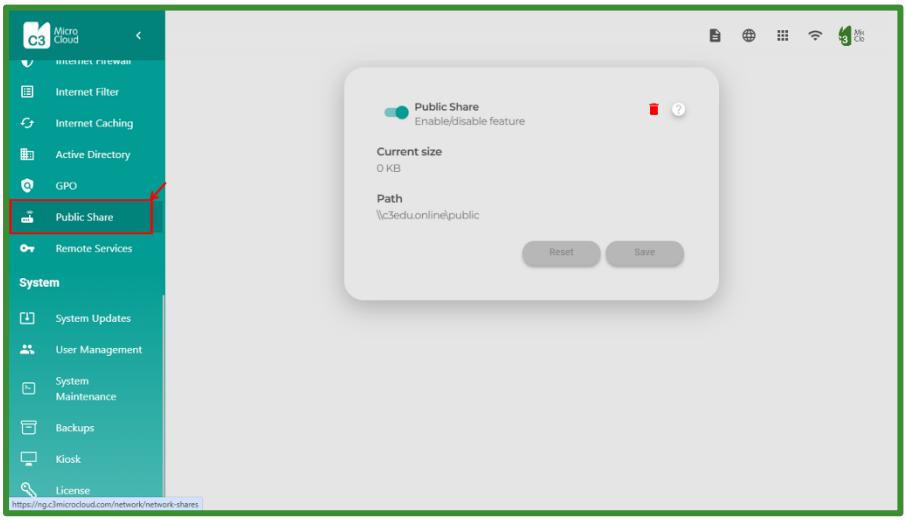


Figure 184: Public Share View

From a Windows computer, the public share can be accessed at **\c3edu.online**, while on a Linux computer, it is available at **smb://c3edu.online/public**.

Please note that since this is a public share, all users have read/write access. Therefore, it is not suitable for storing sensitive documents. The content of the public share can be deleted from this page by clicking the red trash icon, as shown below.

Figure 185: Public Share Management

21. Remote Services

A basic understanding of network administration is required if you wish to modify any of the default parameters provisioned with your device.

This page enables the configuration of various remote services, used in special **C3 Micro-Cloud** configurations and networks.

Important Note: In this Software version it is no longer required the configuration of the **C3 Cloud Control** address. This address is automatically setup in the license configuration by Critical Links.

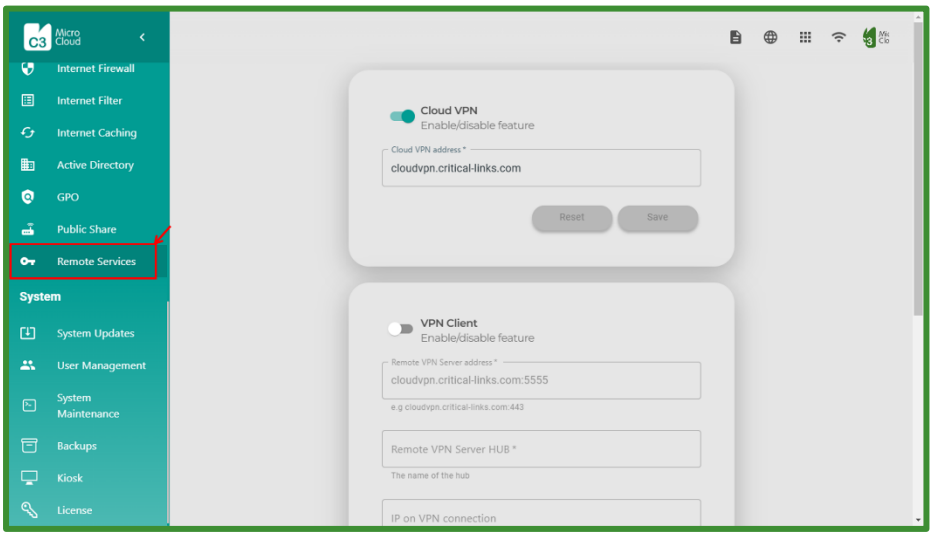


Figure 186: Remote Services View

In the first part of the remote services page, we find Cloud VPN, which makes possible, from a remote location, access to the **C3 Micro-Cloud** as if the user would be working from the local area network side. This service requires a prior activation of the service in Critical Links servers. Please contact Critical Links if required: **support@critical-links.com**

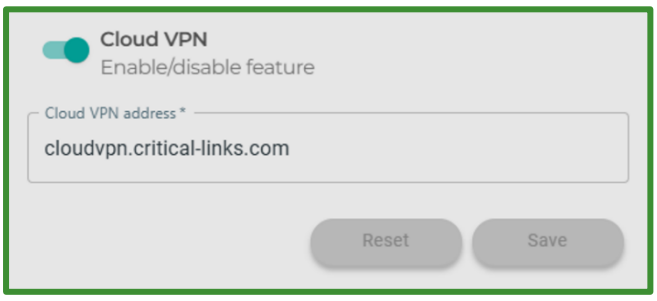


Figure 187: Cloud VPN

Next, we have the VPN Client. This functionality allows the creation of a VPN network between multiple **C3 Micro-Cloud** devices connected with each other via the internet. This feature is especially important if it is required to have multiple **C3 Micro-Cloud** users under the same domain as in an Active Directory environment.

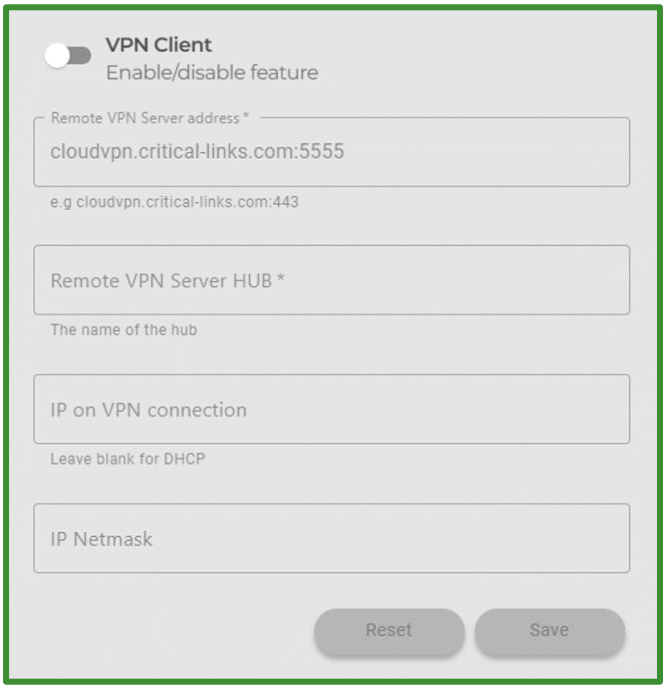


Figure 188: VPN Client

Scrolling down the page, we will find the possibility to enable or disable an SNMP (Simple Network Management Protocol) agent on the **C3 Micro-Cloud**, so that it can be queried by an SNMP management system.

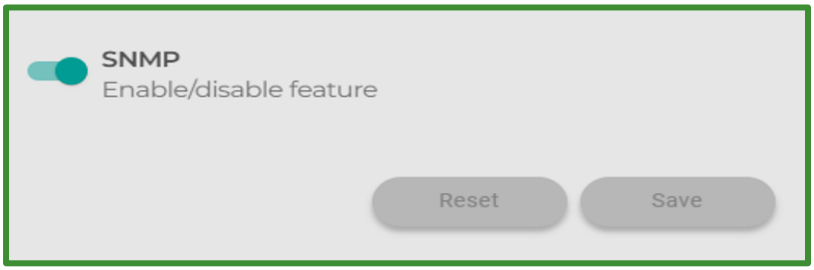


Figure 189: SNMP

22. System Updates

A basic understanding of network administration is required here. The system updates page allows you to easily update your **C3 Micro-Cloud** to the latest available software release.

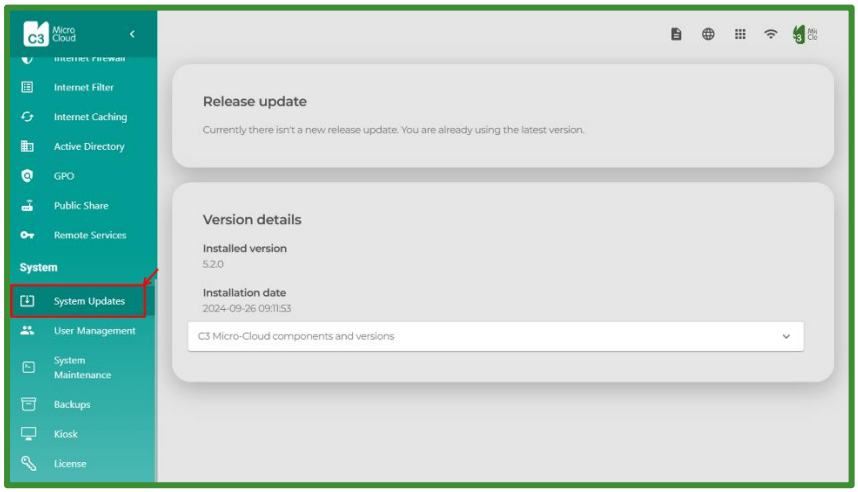


Figure 190: System Update View

When a new release is available, you will be allowed to upgrade to that release, just clicking on **Release Update**.

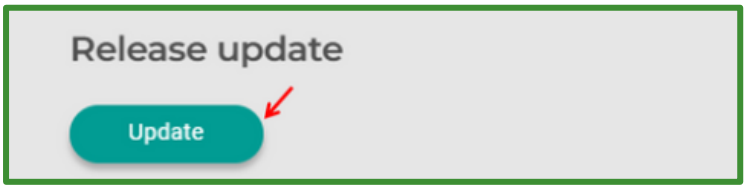


Figure 191: Release Update

If your **C3 Micro-Cloud** is already updated to the latest version available, this information will be shown.

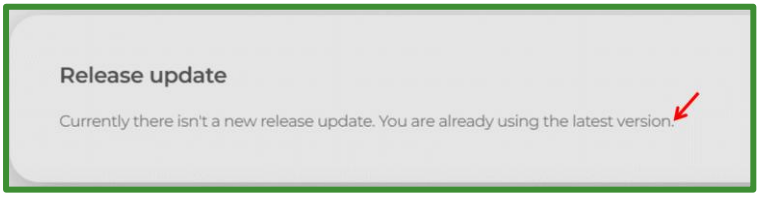


Figure 192: Release Update

It is important to remember that through the "**Dashboard**" menu option, you can also check which version of your **C3 Micro-Cloud** is installed and update it.

For more information on the dashboard, watch the video offline in the "**C3 Micro-Cloud** Training Videos - English Version" folder in the **C3 Cloud Control**.

Or watch the video on the YouTube platform through the provided link:
https://youtu.be/QVuCvCYStik?si=6FZ3l7bPn6j3tc2S

For more information how to configure the System Update, watch the video offline in the "**C3 Micro-Cloud** Training Videos - English Version" folder in the **C3 Cloud Control**.

Or watch the video on the YouTube platform through the provided link:
https://youtu.be/cK_dtBuA2sg?si=4qf0-UipUbxVrjEP

System update page also allows you to check the **C3 Micro-Cloud** Version Details: installed version, date and time of last installation and components and their versions installed.

Figure 193: System Update Version Details

This information may be useful if you need to troubleshoot any issues with the update process alongside the support team. Use the dropdown arrow to expand the list.

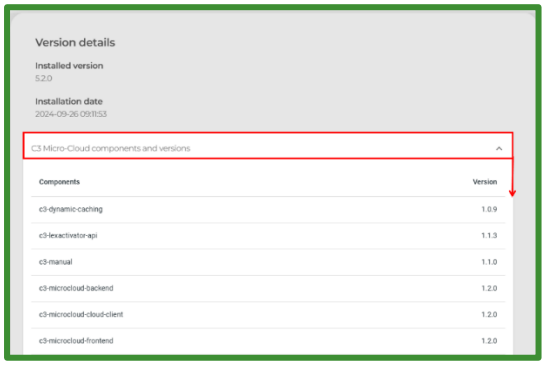


Figure 194: System Update Components and Version Details

23. User Management

This page shows all the users registered in the **C3 Micro-Cloud**, with the possibility to edit or delete current users, as well as registering additional users.

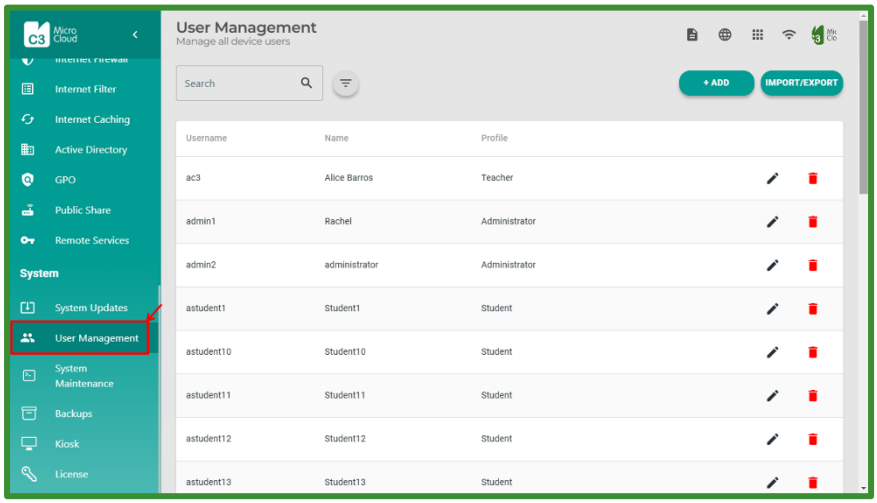


Figure 195: User Management View

Current registered users can be edited or deleted from this page.

If you click the edit button (pencil icon), a form will open allowing you to modify the desired data. If you click the delete button (trash icon), a warning box will appear to confirm the action before proceeding.

Important Note: The user C3 cannot be deleted.

23.1. User Management Search

User search is performed using the search field located in the top-left corner of the User Management page. This feature helps you locate users by name more easily.

By typing a username, name, or profile, only users that match the entered text will be displayed.

Figure 196: User Search View

23.2. User Filtering

User filtering is done by clicking the inverted triangle next to the search field in the top-left corner of the **User Management** page. The user filter allows administrators to search for users in a more specific and detailed manner.

Figure 197: User Filtering View

Filtering can be performed by:

- **Sort:** user name, first name or last name (all ascending or descending);
- **Profile type:** Administrator, Teacher, Student or Parent.

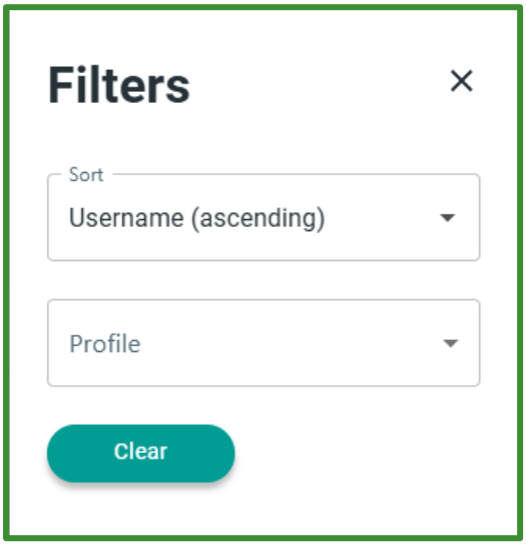


Figure 198: User Filtering View

When the User Management page has a filtered applied the filter icon will be marked.

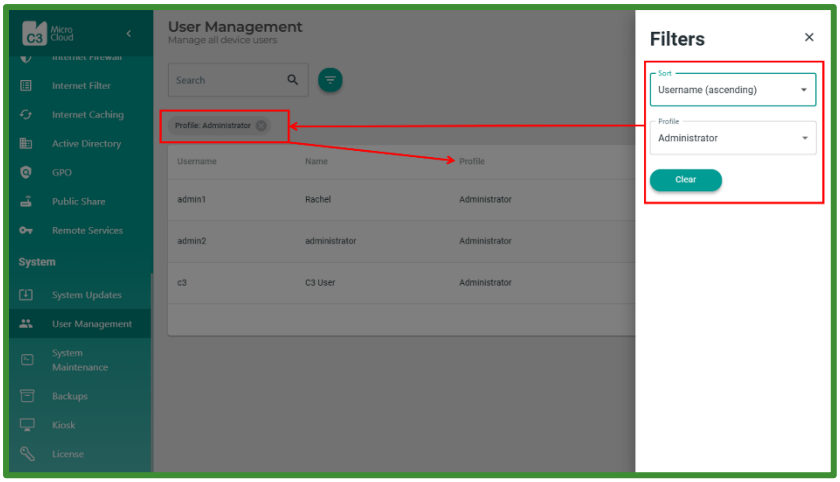


Figure 199: User Filter Applied

23.3. Add User Button

Add User button is located on the top right corner of the User Management page.

Figure 200: Add User Button

Clicking on this **button** will open a form to be filled out with the following fields:

- **First Name:** here should be filled the user first name with at least 5 characters (mandatory);
- **Last Name:** here should be filled the user's last name;
- **Username:** user must choose a unique identifying username (mandatory);
- **Password:** here user must choose a password (mandatory and must has at least 4 characters long);
- **Confirm Password:** here user should put the same password as filled before on "password" field (mandatory);
- **Profile:** Administrator, teacher, student or parent (mandatory);
- **Gender:** User should choose male or female. If user don't choose one, male gender will be filled by default;

- **E-mail:** If user has an e-mail account, it should be filled here;
- **Phone number:** if user has a phone number, it should be filled here;
- **User id:** Here, if administrator wants, could be filled with a name to better identify user;
- **Date of birth:** The user date of birth;
- **Choose file button:** If administrator wants, by clicking on this button, could be possible to upload a picture file associated the user (typically it would be a picture of the user face).

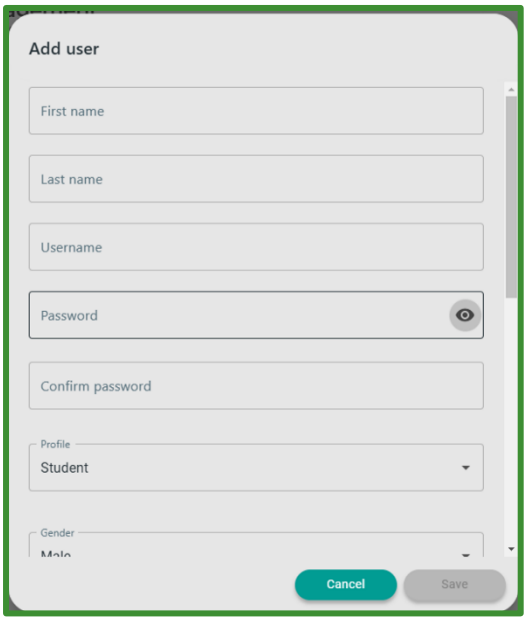


Figure 201: Add User Form

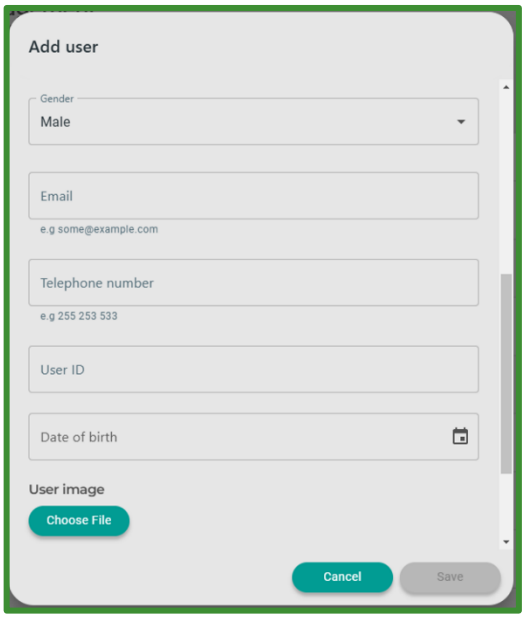


Figure 202: Add User Form (continuation)

The add user button allows each user to be added individually. To add a list of users at once or even export users from your C3 Micro-Cloud, simply click the Import/Export button.

23.4. Import/Export Button

Import/Export User button is located on the top right corner of the **User Management** page.

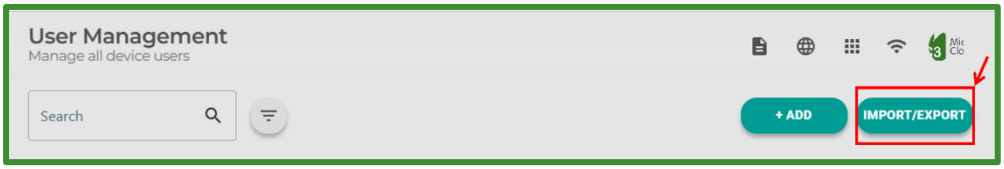


Figure 203: Import/Export User Button

23.4.1. Template Tab

Import/Export User button is located on the top right corner of the **User Management** page.

In the template tab, the user can easily download the CSV user file template.

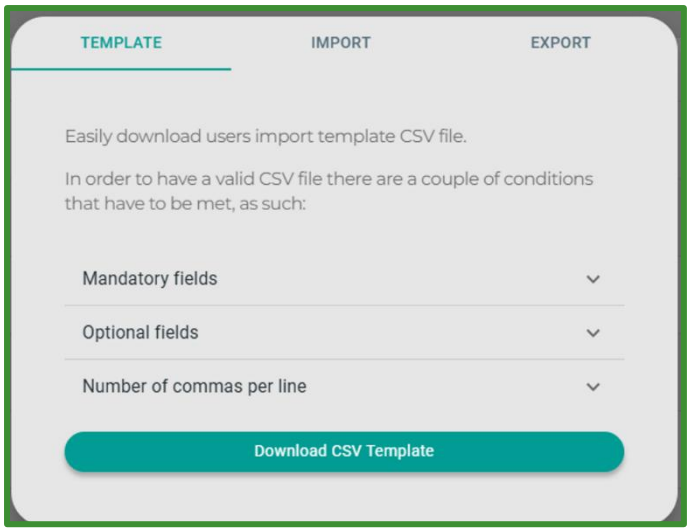


Figure 204: Import/Export User - Template Tab

In order to have a valid CSV file, there are some conditions that must be met, such as:

- Mandatory fields:
  - Username (this field must be unique);
  - Main Profile ("administrator", "parent", "student", "teacher")
  - Password (at least 4 characters long)
  - First Name

- Optional fields:
  - Secondary Profiles (just for Critical-Links technical team use. No need to fill out);
  - Last Name;
  - Birth date (yyyymmdd format, e.g: 19991231);
  - Email (e.g: some@example.com);
  - Gender ("M" or "F");
  - Contact (numbers only);
  - Student ID;
  - Account locked ("yes" or "no").

Number of commas per line: every line **must always have 11 commas.**

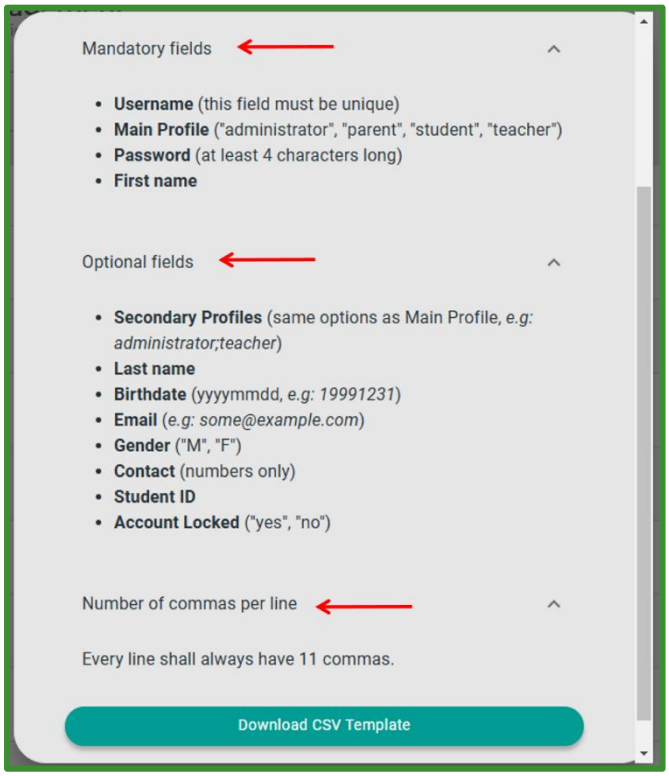


Figure 205: Import/Export User - Template Conditions

This means that, even if not all fields in the spreadsheet are filled in, the spreadsheet must have 11 commas in total. Example: Suppose that only the mandatory fields (Username, Main Profile, Password, First Name) were filled in. In this case, we would have to add necessarily 7 more commas.

The template can be downloaded by clicking the "**Download CSV Template**" button. When you do this, you will see the following spreadsheet.

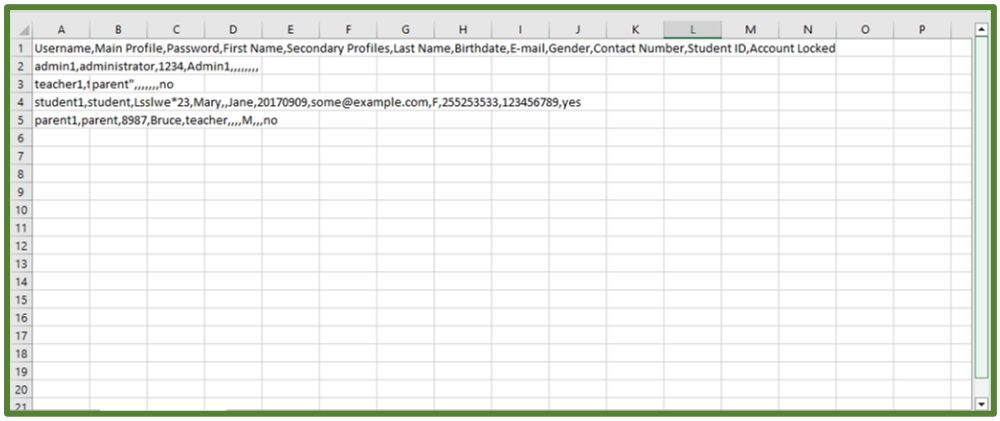


Figure 206: Import/Export User - Import Tab

23.4.2. Import Tab

Through this tab, the administrator can easily import users from a CSV file. To do so, you must first upload the file to the **C3 Micro-Cloud** from your workstation.

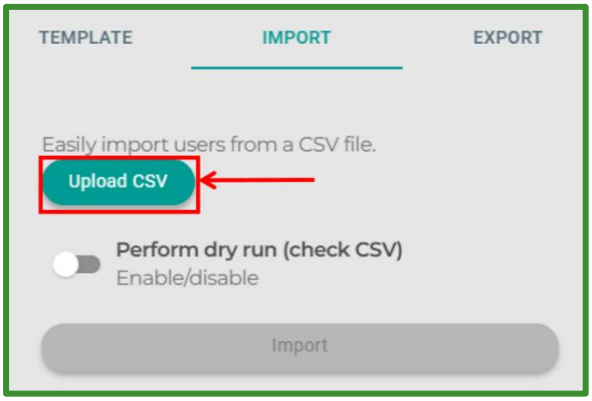


Figure 207: Import/Export User - Import Tab

After the uploaded is completed, a second phase process is recommended:

1. Enable **Perform Dry Run** option on the file, simulating the import process to check that all formatting is correct and the import will be successful;
2. Proceed with the import clicking on **Import** button.

23.4.3. Export Tab

Through this tab, the administrator will be able to easily export users to a CSV file. To do this, just click on the **Export** button and then, the CSV file will be saved on your device.

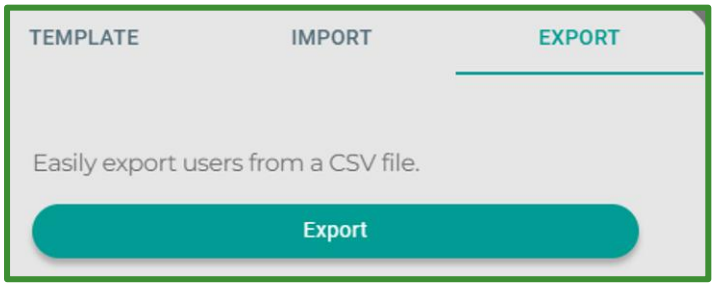


Figure 208: Import/Export User - Export Tab

For more information about User Management, watch the video offline in the "**C3 Micro-Cloud** Training Videos - English Version" folder in the **C3 Cloud Control**.

Or watch the video on the YouTube platform through the provided link:
https://youtu.be/DzK4eSRCxFQ?si=q8igJBfLrJ4kjWBt

24. System Maintenance

A basic understanding of network administration is required here. The System Maintenance page allows the administrator to schedule reboots of the **C3 Micro-Cloud**. Additionally, this page provides the ability to view system logs and monitor the health of various internal software services of the **C3 Micro-Cloud.**

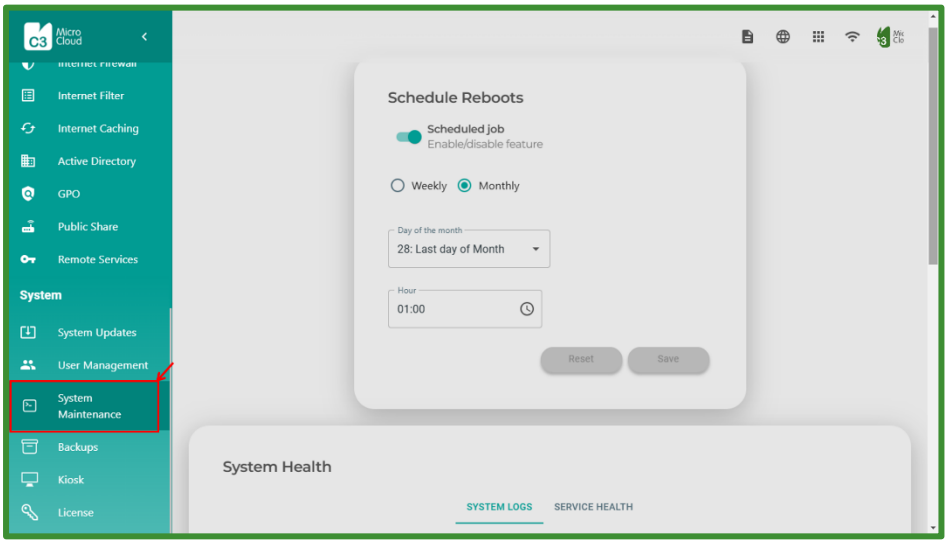


Figure 209: System Maintenance View

24.1. Schedule Reboots

This feature allows the administrator to easily schedule automatic periodic **C3 Micro-Cloud** reboots.

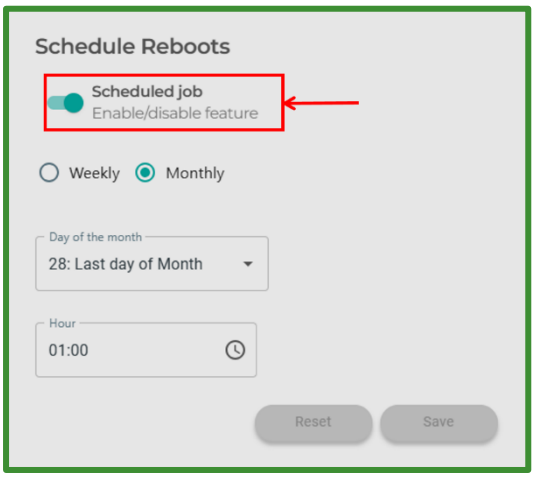


Figure 210: System Maintenance - Schedule Reboots

By default, the **Schedule job** option will be enabled. This will make possible to the administrator schedule automatic restarts. But if this option is disabled, automatic restarts will not be possible.

There are two options for scheduling automatic restarts: monthly or weekly.

By default, the monthly reset option will be enabled. But this can be changed by the system administrator.

Since the reset is monthly, the administrator will select the day of the month and the hour that this reset should occur every month. After do this schedule, administrator should click on **Save** button.

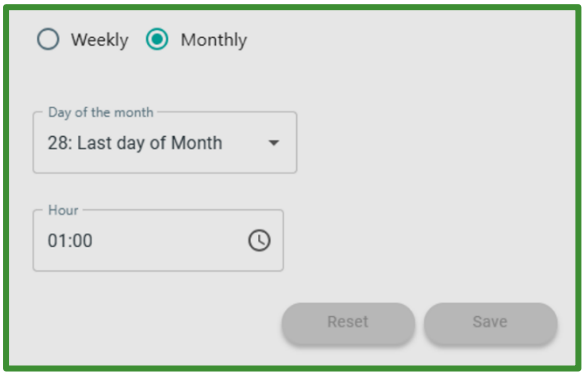


Figure 211: System Maintenance - Schedule Reboots Monthly

Since the reset is weekly, the administrator will select the day of the week and hour that this reset should occur weekly. After do this schedule, administrator should click on **Save** button.

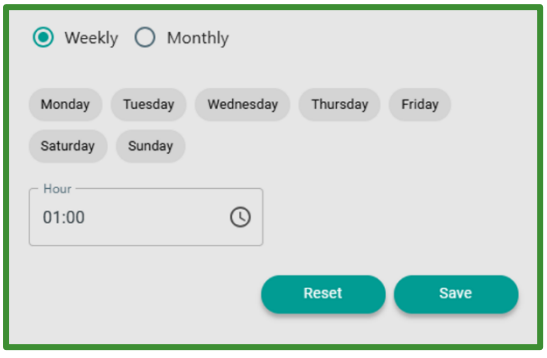


Figure 212: System Maintenance - Schedule Reboots Weekly

24.2. System Health

This feature allows the administrator to view system logs and service health of the multiple **C3 Micro-Cloud** internal software services.

24.2.1. System Logs

System logs are essential for the Critical Links support team. When the administrator requires assistance with system logs, they can select the types of logs to send to the support team for review.

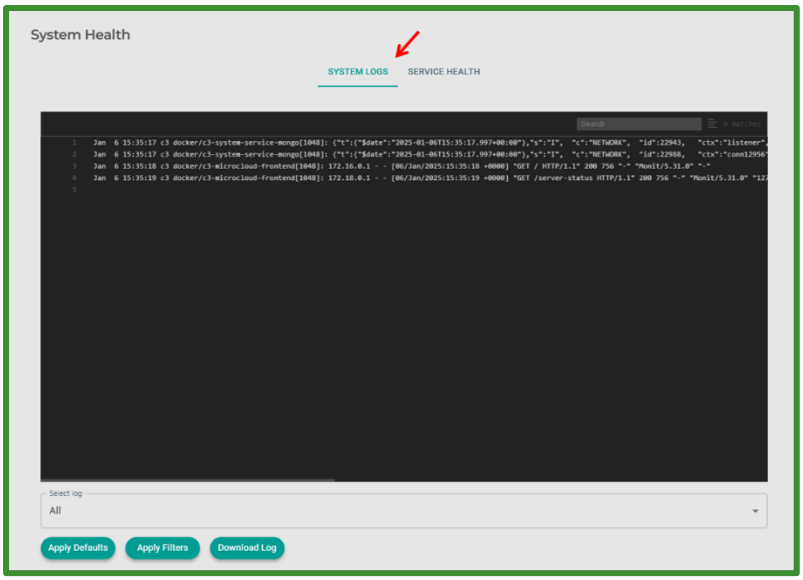


Figure 213: System Maintenance - System Logs

To do this, the user needs to:

- Click on **Select log** option and choose the desired option;
- Click on the **Apply filters** button;
- Click on the **Download log** button;
- Send the generated file to the Critical Links support team.

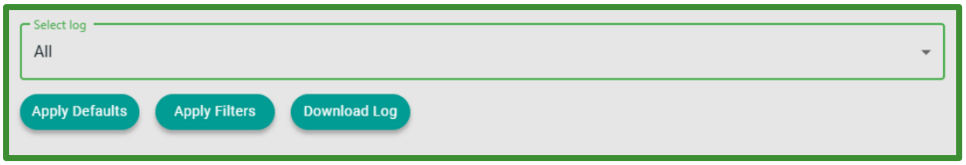


Figure 214: System Maintenance - System Logs

To return to viewing all logs, the user simply clicks on the **Apply Default** button or goes to **Select Logs**, chooses the **All** option and clicks on the **Apply filter** button.

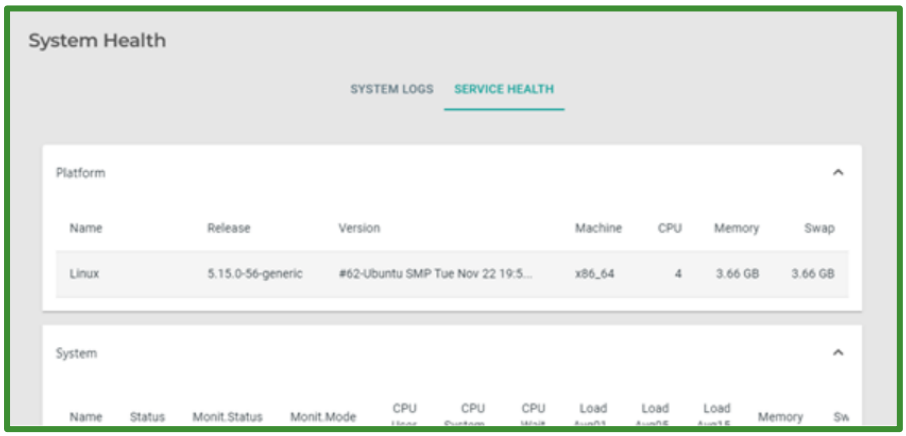


Figure 215: System Maintenance - System Health

25. Backup

A basic understanding of network administration is required if you wish to modify any of the default parameters provisioned with your device. This page allows the **C3 Micro-Cloud** administrator to back up or restore the entire device configuration or selected parts of it, including its content.

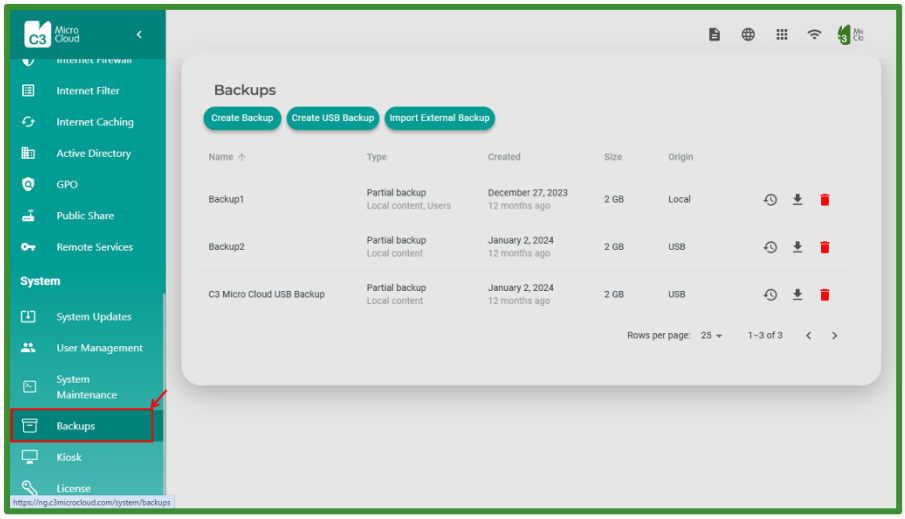


Figure 216: Backup Page View

The initial page shows the backups that are currently sorted in the system. For each of them it is possible to use it to restore a configuration, download it to your workstation or delete it.

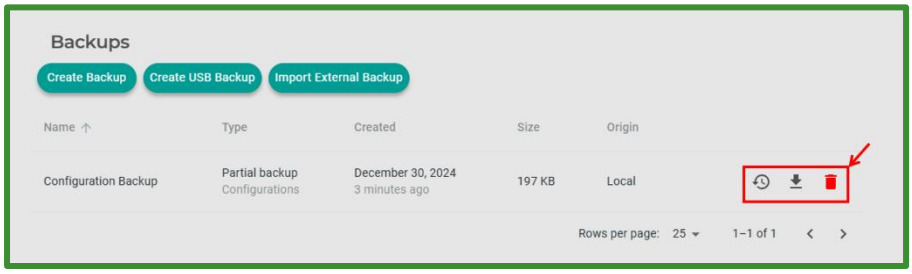


Figure 217: Restore, Download or Delete Backup Options

From this page, you can view information about the current backups, such as the backup name (which can be sorted in ascending or descending order), type (partial or full backup), creation date, size, and origin (e.g., local or USB).

The backup page also includes three buttons in the upper-left corner, allowing the administrator to: create new backups, create USB backups, or import an external backup.

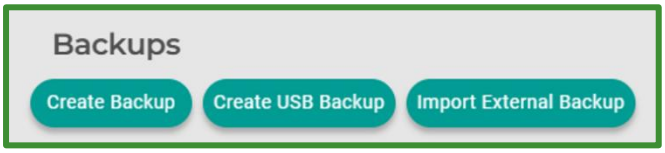


Figure 218 - Backup Page Buttons

25.1. Create Backup

The "Create Backup" button allows the administrator to easily create partial or full backups locally. It is important to note that this button is used exclusively for creating local backups (saved on the device). During the backup process, you will not be able to navigate away from this page.

When you click the **"Create Backup"** button, a prompt will appear allowing you to choose the type of backup (partial or full). By default, the partial backup option will be selected.

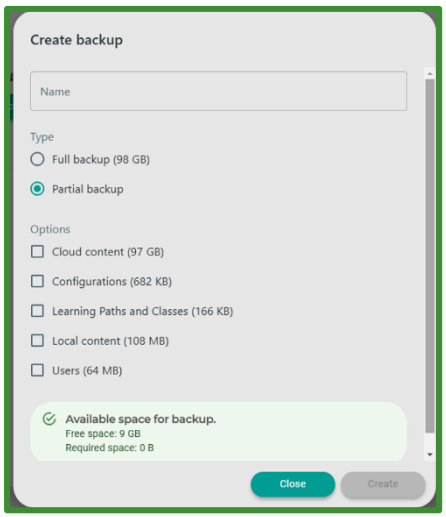


Figure 219: Create Backup

First, the user must fill in the backup name field (required). The next step is to choose whether the backup will be partial or full. If it is a partial backup, the desired options for the backup must be specified, including:

- Cloud content;
- Configurations;
- Learning paths and classes;

- Local content; and
- Users.

Note that next to each option mentioned above, the total size required is indicated in parentheses.

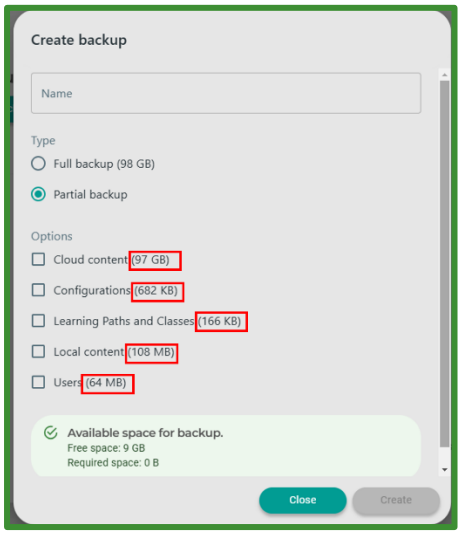


Figure 220: Create Backup - Options Space Required

Once the options have been selected, the total available disk space and the total space required for the backup are displayed below. If the required space for the backup is less than or equal to the available disk space, simply click the "**Create**" button.

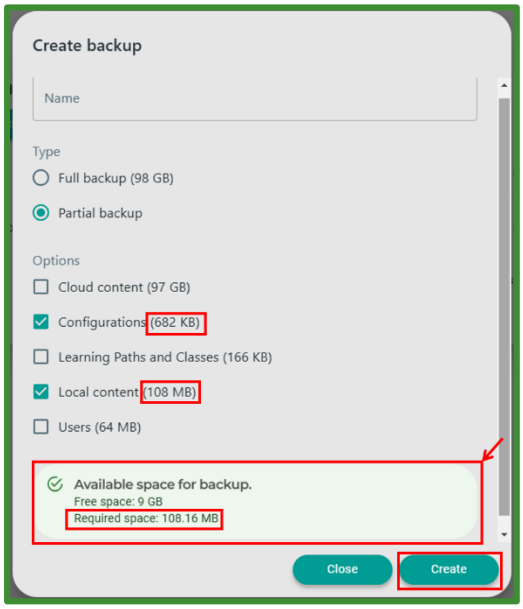


Figure 221: Create Backup - Available Backup

If the requested total exceeds the available disk capacity, this will be indicated, and the "**Create**" button will be disabled, preventing the backup from being created.

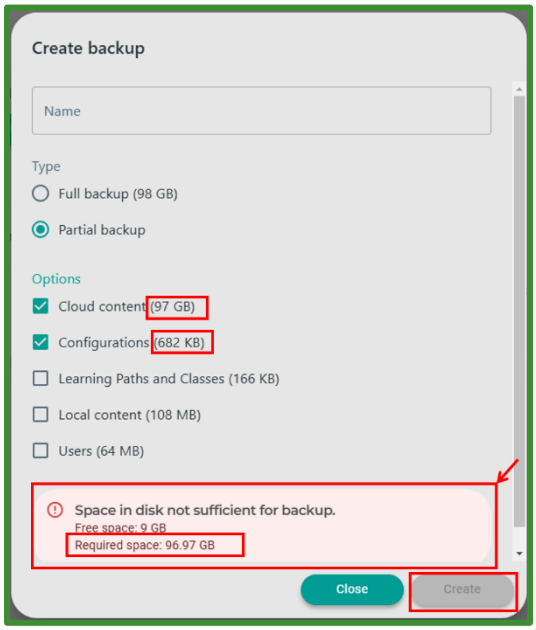


Figure 222: Create Backup - Unavailable Backup

The created backup will appear on the main page.

25.2. Create USB Backup

The "Create USB Backup" button allows the administrator to easily create partial or full backups on a USB drive. It is important to note that this button is specifically for creating USB backups. Additionally, the flash drive must be connected to the **C3 Micro-Cloud** before clicking the "**Create USB Backup**" button. During the backup process, you will not be able to navigate away from this page.

When you click the "**Create USB Backup**" button, a prompt will appear allowing you to choose the type of backup (partial or full). By default, the partial backup option will be selected.

25.3. Import External Backup

The "**Import External Backup**" button allows the administrator to easily import a backup, either from this unit or from another unit.

When you click the "**Import External Backup**" button, you will be prompted to specify the location of the backup file to be imported into your **C3 Micro-Cloud**. Simply select the file and click the "**Open**" button. During the backup operation, you will not be able to navigate away from this page.

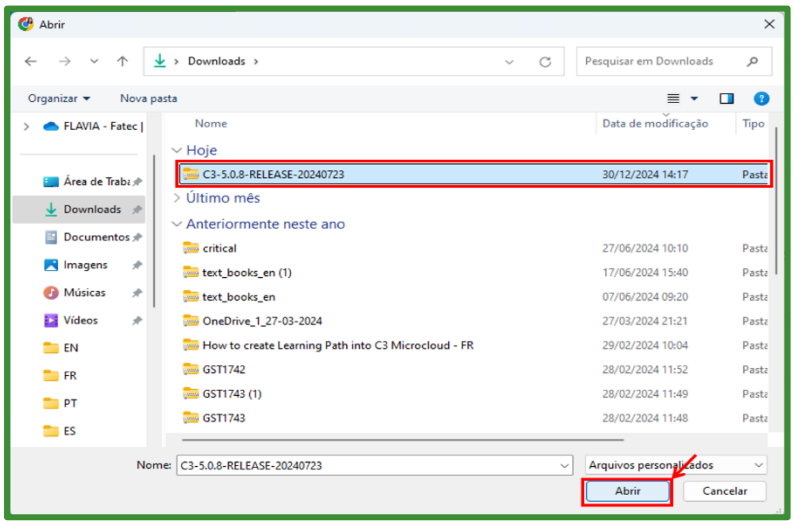


Figure 223: Import External Backup

Important Note: You can only import compressed files.

26. Kiosk

A basic understanding of network administration is required if you wish to modify any of the default parameters provisioned with your device. The **C3 Micro-Cloud** allows you to connect a display directly to the HDMI or VGA port included on the device.

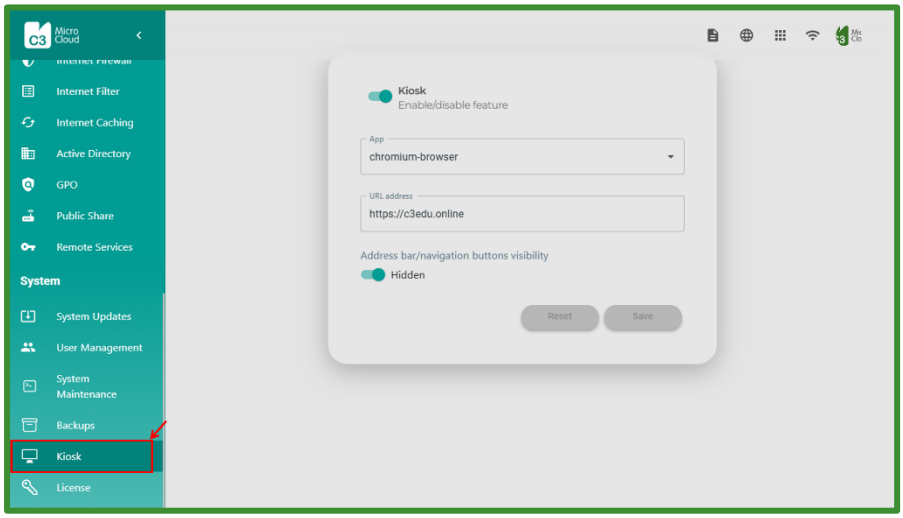


Figure 224: Kiosk Page View

After booting, the device will display a webpage of your choice. It is also possible to hide the address bar. If the "Hide address bar/navigation buttons" option is selected, users will not be able to navigate through the content using these buttons or enter a specific URL.

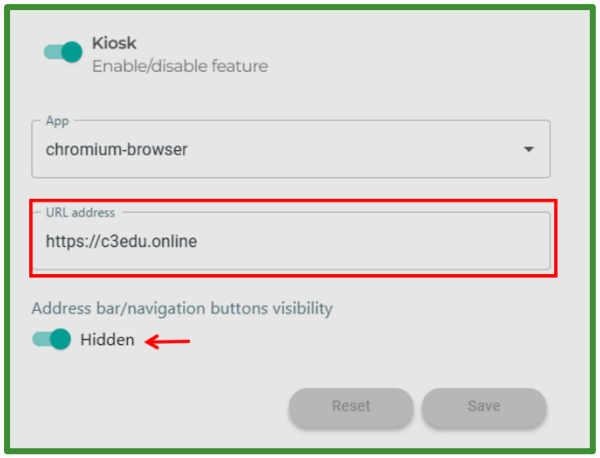


Figure 225: Kiosk Configuration

27. License

This page allows the user to view administrative information about their **C3 Micro-Cloud**.

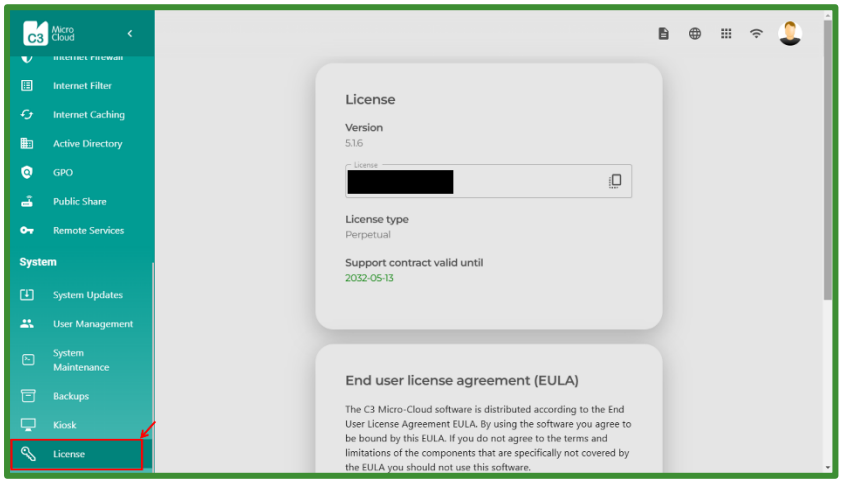


Figure 226: License Page View

That administrative information, that could be useful if you need some Critical Links support, are:

- Software Version;
- License ID;
- License Type (Perpetual or Subscription);
- Support Contract Information.

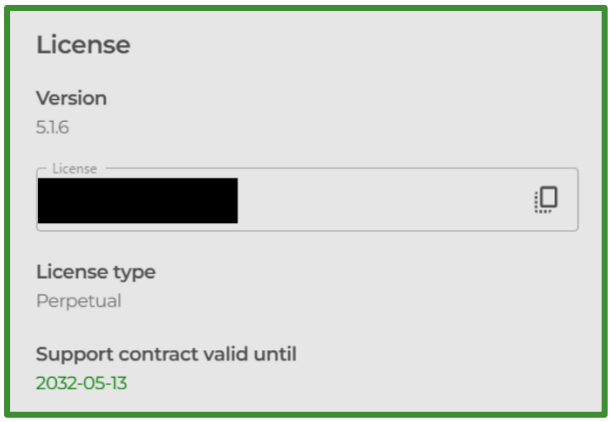


Figure 227: End User License Agreement

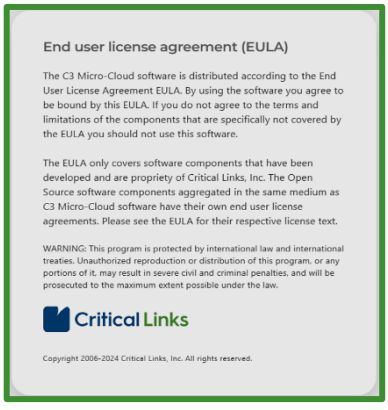


Figure 228: License Information

When opening a support ticket to report an issue with your **C3 Micro-Cloud**, you should include this information to help expedite the support process. The License page also provides detailed information about the End User License Agreement (EULA).