Education

Intel® Education Content Access Point

User Manual

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Revision History

Revision	Description	Date
001	Initial release.	January 2015

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1 Overview

The Intel® Education Content Access Point is a wireless access point with an optional digital content distribution system, which provides an easy-to-use interface and storage unit that can be loaded with educational materials that students can access without requiring access to the Internet.

Networking features

- Wireless access point supporting Wi-Fi IEEE 802.11 b/g/n (2.4 GHz) and IEEE 802.11 a/n/ac (5 GHz) with WEP, WPA, and WPA2 encryption.
- Supports wired Gigabit Ethernet and 3G/4G/LTE mobile WAN connectivity, with intelligent failover if one connection type is unavailable.
- Allows admin and teacher to turn Internet access on and off easily without complicated settings.
- Firewall that can block attacks such as Portscan, SYN flood, and Echo Storm.
- Up to 50 concurrent wireless clients running CLM solutions such as Mythware and NetSupport.
- Captive portal capability automatically directs users to the primary website on the device when wireless connection is established.
- Built-in DHCP server, MAC address filtering (whitelist, blacklist) of clients, and ability to limit number of connected clients.

Content management and distribution features

- Supports most file formats (PDF, HTML, JPG, MP3, ZIP, etc.), even apps/executables.
- Supports single-file or bulk-file upload of content.
- Contains two content spaces:
  - "Preloaded Content" which can be populated by the LOEM, reseller, MOE, content publisher, or the factory and cannot be erased or modified by teachers or by device factory reset.
  - "My Uploaded Content" which can be populated and managed (including erasure) by teachers.
- Supports IMS content packaging standard.
- Content can be tagged and categorized according to pedagogical structure.
- Content can be organized into lessons.
- Content and lessons can be featured so it's easier for students to see what is most relevant.
- Teachers can restrict (hide) access to content from students.
- The device's content management system allows students easy access to content without any complicated login.

Other features

- Designed with simple and intuitive user interface making it easy to use, configure, and manage.
- Elegant, compact, lightweight, and portable - designed to be mounted and unmounted easily so it can be transported to and fro without a tool.
- Ability to save and restore configuration settings.
- Can be mass-provisioned (firmware update, configuration settings, content upload, factory reset).
- Includes a USB 3.0 interface to allow faster upload of content and firmware updates.
- Contains a 5-hour battery for uninterrupted use and mobile usage.

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2 Getting Started for Admins

2.1 Package contents

- Intel® Education Content Access Point
- Power supply
- Mounting kit
- Quick Start Guide for Admin, Teacher, and Student

2.2 Supported operating systems, browsers, and languages

- Operating systems:
  - Windows* 7
  - Windows 8 and higher
  - Android* 4.2 and higher
- Internet browsers:
  - Internet Explorer* 9 and higher
  - Chrome* v35 and higher
  - Firefox* v30 and higher
  - Android native browser
- Languages:
  - English
  - Spanish (Latin American and European)
  - Portuguese (Brazilian and European)
  - French
  - Arabic
  - Turkish

2.3 Get to know the device

Figure 1: Intel® Education Content Access Point – Top view

Figure 2: Intel® Education Content Access Point – Bottom and ports view

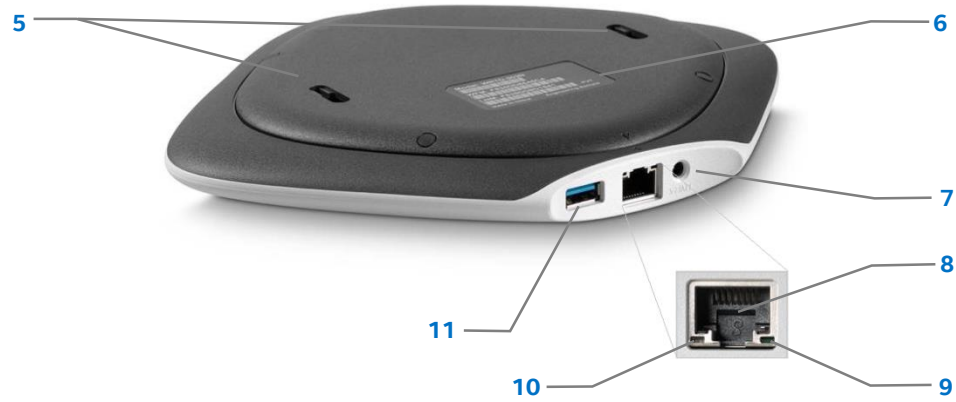
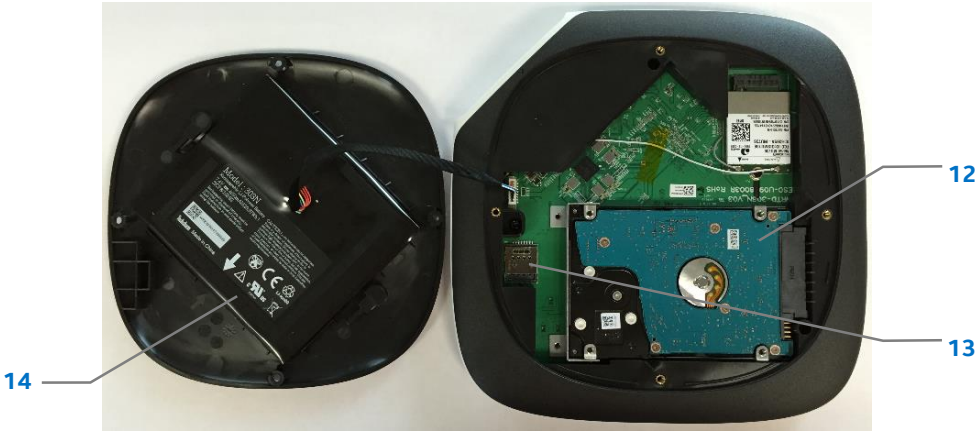


Figure 3: Intel® Education Content Access Point – Inside view



1	System LED status
2	3G/4G/LTE LED status
3	Power button
4	Factory reset button
5	Wall-mount holes
6	Wi-Fi MAC (WFM), Ethernet (LNM) MAC address label
7	Power plug

8	WAN Ethernet port
9	WAN Ethernet link LED status
10	WAN Ethernet activity LED status
11	USB 3.0 port
12	Hard drive
13	3G/4G/LTE micro-SIM slot
14	Battery

2.3.1 LEDs

Table 1: System LED status

Device state	Color	Description
Off	None	The device is powered off
Fast pulsing then solid	Blue	The device is powered on and booting up
Slow pulsing (“breathing”)	Blue	The device has booted and is functioning normally
Slow pulsing	Blue and orange	Battery low
Solid	Orange	System error/warning

Table 2: 3G/4G/LTE LED status

Device state	Color	Description
Off	None	3G/4G/LTE off
On	Blue	3G/4G/LTE on
Blinking	Blue	No signal

Table 3: WAN Ethernet LED status

LED	Color	Description
Activity	Off	No activity
	Green	Receive
	Orange	Transmit
Link	Off	No link
	Green	Link

2.3.2 Buttons

Table 4: Power button

Device state	Action	Result
Off	Press and hold for 2 seconds	Turns on
On	Press once	Turns off

Table 5: Factory reset button

Device state	Action	Result
On	Press and hold for 5 seconds	System LED flashes and device goes through reset process

2.3.3 Ports

The device has three ports:

- WAN Gigabit Ethernet
- USB 3.0 (USB 2.0 compatible)
- Micro-SIM slot (accessible by removing bottom cover)

2.4 Device placement location

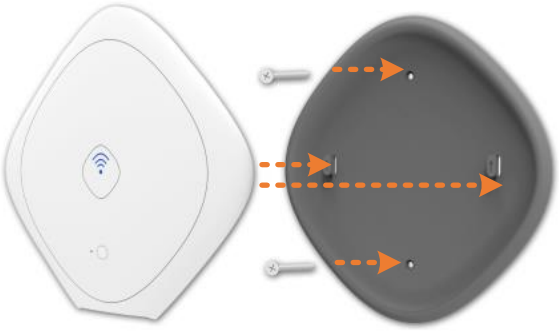
For best signal strength, put the Intel® Education Content Access Point:

- In an open area.
- High off the floor.
- Away from magnetic and large metal objects.
- At least 3 feet (1 meter) from client devices.

2.5 Mounting

The Intel® Education Content Access Point comes with a mounting kit. To mount it, follow this diagram (Figure 4).

Figure 4: Mounting diagram



2.6 Setup

1. Connect the Intel® Education Content Access Point to a network (WAN) with an Ethernet cable. (See Figure 5.)

   TIP! For 3G/4G/LTE cellular-based WAN connection, see 5.8.2 (Cellular-based WAN).

2. Connect the power supply.

Figure 5: Connect the cables

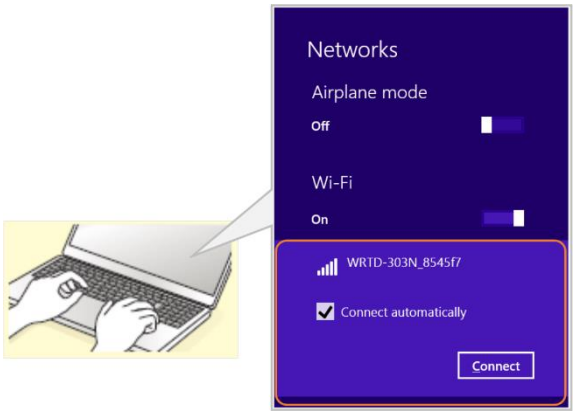
3. Power up the device by pressing and holding the power button for two seconds. (See Figure 6.)

Figure 6: Power button

2.7 Log on as admin for the first time

1. Wirelessly connect to the device using its default SSID. The default SSID is *WRTD-303N_xxxxxx*, where "xxxxxx" is the last six digits of the Wi-Fi MAC address (WFM), which is printed on the bottom of the device. (See Figure 2 item 6.) For example, for a device with a WFM of F835DD**85457A**, the wireless SSID is **WRTD-303N_85457A**. (See Figure 7.)
2. Launch a browser and go to *http://my.admin* (or *http://192.168.88.1:8080*).
3. Enter username *admin* and password *admin*.
4. Change the admin default password when prompted.

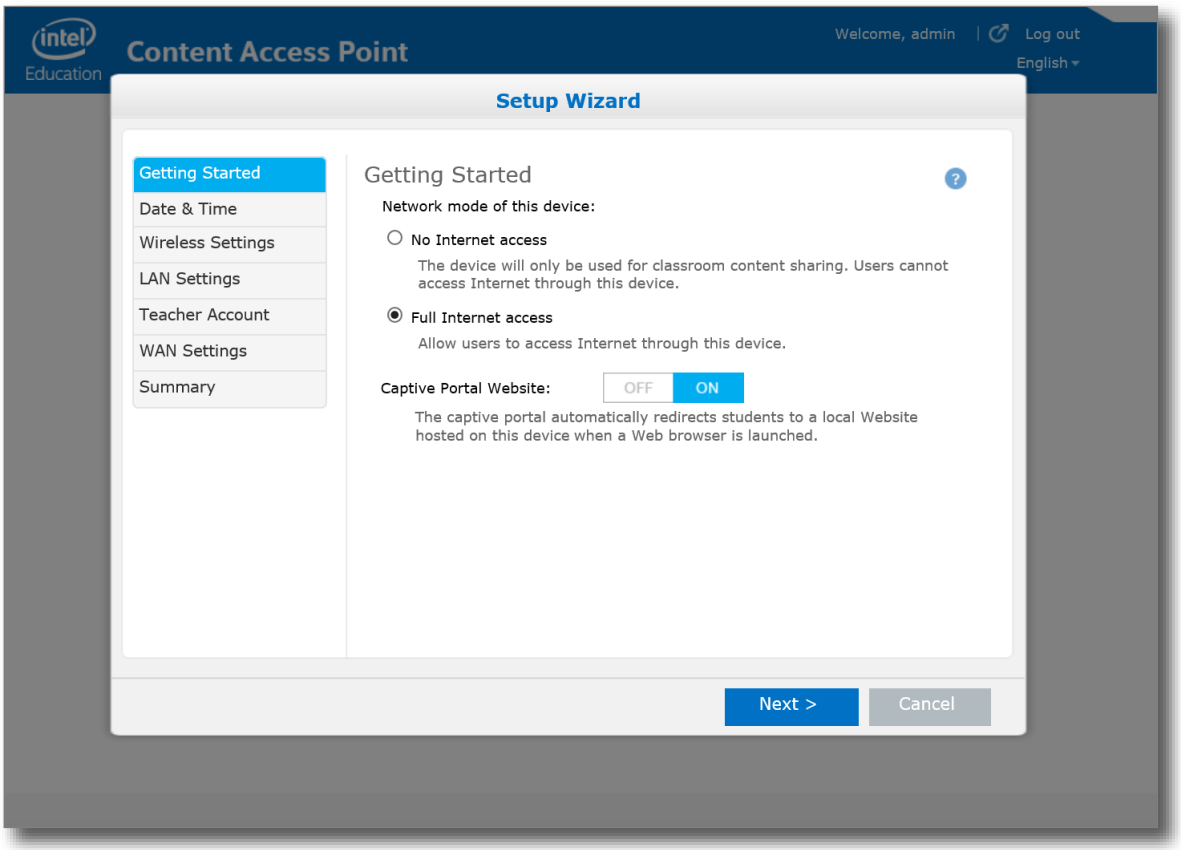
Figure 7: Admin - Wirelessly connect to the Intel® Education Content Access Point



2.8 Run the setup wizard

1. Click *Setup Wizard*. (See Figure 8.)
2. Follow the steps in the wizard to set up the following:
   a. Connection access type
   b. Date and time
   c. Wireless settings
   d. LAN settings
   e. A teacher account
   f. WAN and 3G/4G/LTE settings
3. Click *Save* to save and implement the changes.

Figure 8: Admin setup wizard



2.9 Upload content

TIP! See Section 5.11.2 (Manage preloaded content database) for advanced methods of uploading content.

CAUTION:

- Uploading to the *Preloaded Content* database will erase existing teacher-uploaded content in the *My Uploaded Content* space.
- The device will reboot as part of the content upload process. This will temporarily disrupt network and content access for users, who will see a "503 – Service Not Available" message during the process.

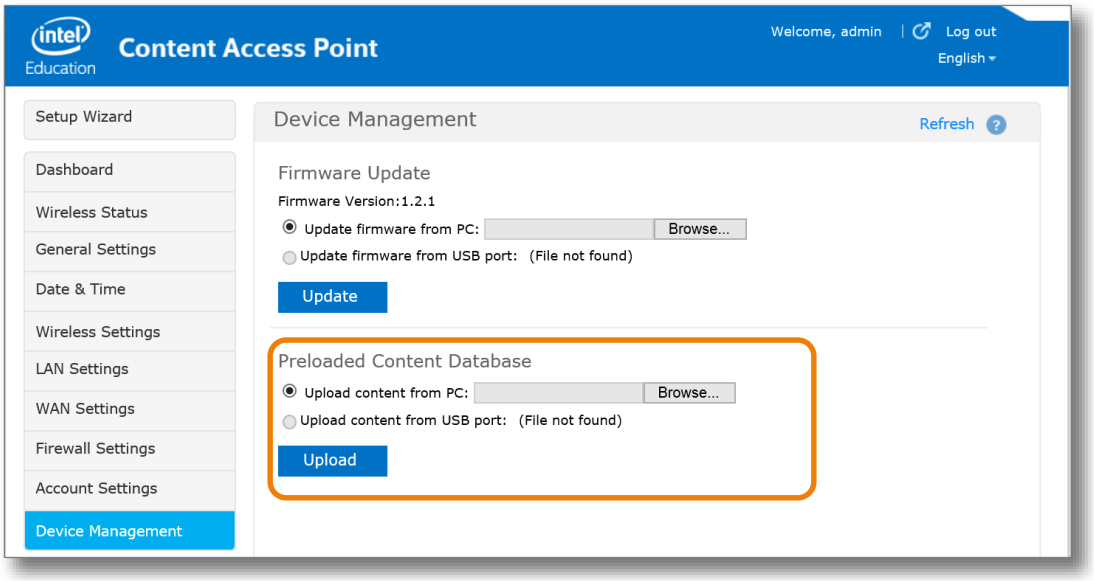
To upload content, do the following:

1. Create a package containing the content to upload:
   a. Zip the content into a file called *content_xyz.zip* (also known as the package), where "xyz" can be any combination of letters and numbers (for example, *content_123.zip*, *content_abc.zip*, *content_a1b2c3.zip*, etc.).
   b. Do not include subfolders.
   c. Do not encrypt or password-protect the zipped file.
   d. Total size must not exceed 2 GB.
2. Upload through the Admin console:
   a. Go to *Device Management > Preloaded Content Database*. (See Figure 9.)
   b. Specify the location of the package (a local computer or a storage device connected to the USB port in the Intel® Education Content Access Point).

      TIP! If you are uploading from a USB drive connected directly to the device, put the package in the root directory and plug in the drive. The package file will display after you refresh the admin screen.

   c. Click *Upload*.

Figure 9: Admin - Upload content



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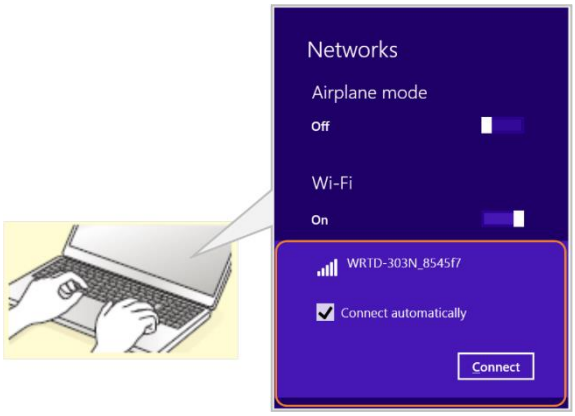
3 Access Content and Lessons (Student Guide)

The Intel® Education Content Access Point contains educational content and lessons created by the teacher. “Content” is an individual file, whereas “a lesson” may consist of one or more content files.

3.1 Connect to the Intel® Education Content Access Point

1. Wirelessly connect to the device. (See Figure 10.)
2. Enter password if required.
3. Launch a browser and go to *http://my.content*.

Figure 10: Student - Wirelessly connect to an Intel® Education Content Access Point



3.2 Lesson and content

A lesson is a collection of one or more content files. Featured lessons and content are shown in the *Home* page. To see all lessons, go to the *Lessons* page. To see all content, go to the *Library* page if it's made accessible. (See Figure 11.)

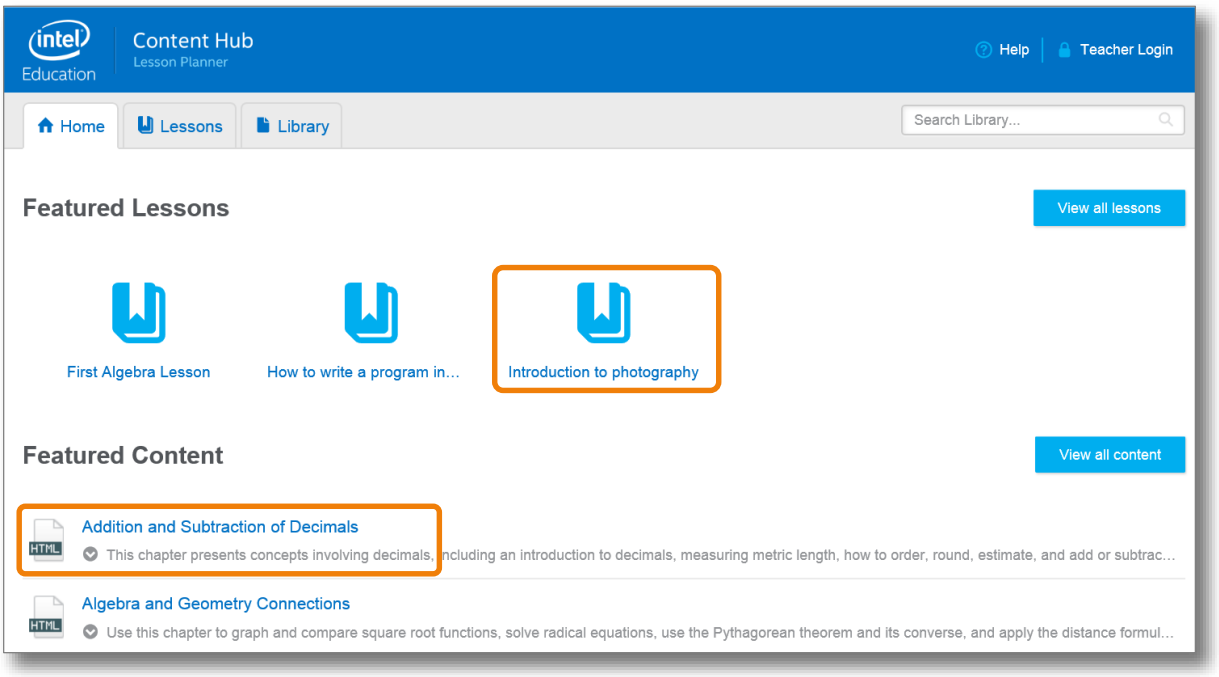
Figure 11: Student - Home, lessons, library page

3.3 Open lessons and content files

To open a lesson, click it.

To open a content file, click it and it will appear in a new browser tab. If the browser cannot open the file, it will download it to the default *Downloads* location. Use an appropriate application to open the file. (See Figure 12.)

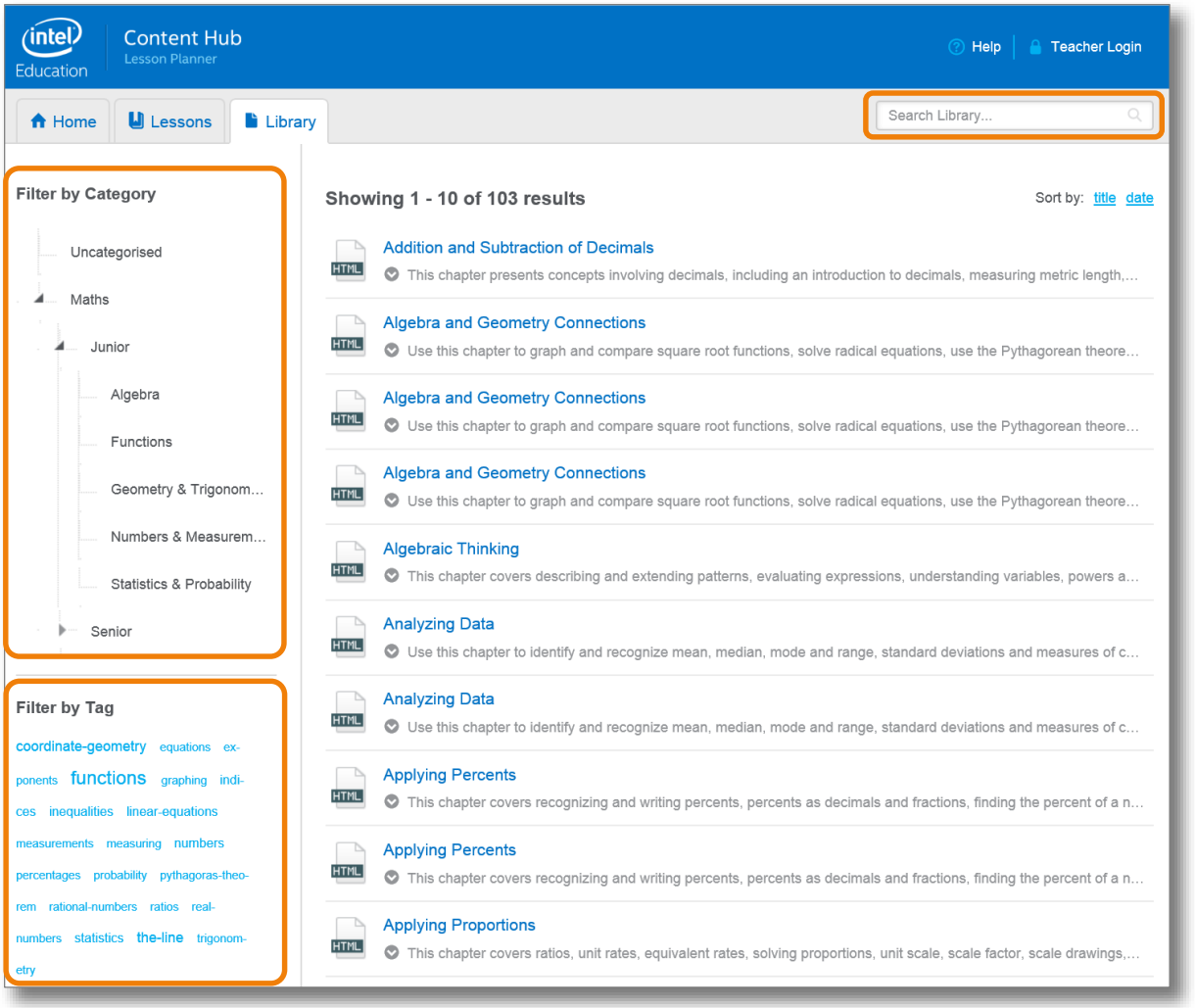
Figure 12: Student - Open lesson and content



3.4 Search for content and lessons

1. To search for content, go to the *Home* or *Library* page. (See Figure 13.)
   a. Enter keywords in the *Search* field. A keyword can be a tag, a description, or the name of a content file.
   b. Another way to search in the *Library* page is by filtering based on a category or a tag.
      i. To filter by category, expand the desired category under the *Filter by Category* area.
      ii. To filter by tag, click the desired tag under the *Filter by Tag* area.
2. To search for lessons, go to the *Lessons* page and enter the lesson name in the *Search* field.

Figure 13: Student - Search for lessons and content



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4 Content and Lesson Management (Teacher Guide)

The Intel® Education Content Access Point contains a web application called the Intel® Education Content Hub, which allows you to upload and store educational content locally. It supports most common file formats, such as PDF, Word*, Excel*, PowerPoint*, HTML, e-pub, audio and video formats, etc. Teachers and administrators can upload files to the *Library* of the *Content Hub*. Teachers can use the files in the *Library* to create lessons, which students can then access.

Here is a typical workflow for teachers, with detailed instructions for each task in the sections that follow.

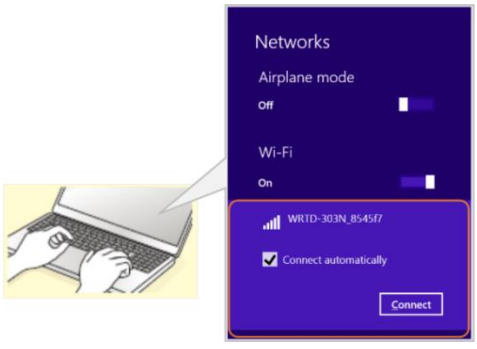
- Log on as a teacher.
- Upload and manage content in the library.
- Create and manage lessons.
- Feature content and lessons.
- Search for content and lessons.
- Perform other administrative tasks:
  - Disable Internet access.
  - Change password.
  - Change the wireless name of the device.

4.1 Log on as a teacher

To perform teacher-specific tasks, such as uploading content or creating lessons, you must log on as a teacher.

1. Wirelessly connect to the device. (See Figure 14.)
2. Enter password if required.
3. Launch browser and go to *http://my.content*.

Figure 14: Teacher - Wirelessly connect to Intel® Education Content Access Point



4. Click *Teacher Login* ( ). (See Figure 15.)
5. Enter your username and password.

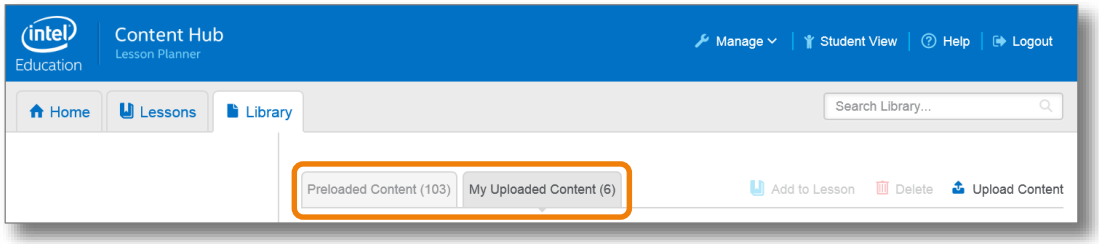
Figure 15: Teacher login

4.2 Upload and manage content in the library

The *Library* is the place where you upload, store, and manage content files. It contains two content spaces (See Figure 16):

- *Preloaded Content*, which can be populated by the LOEM, reseller, MOE, content publisher, or factory, and which cannot be erased or modified by teachers.
- *My Uploaded Content*, which can be populated and managed (including erasing) by teachers.

Figure 16: Library - Preloaded content and My uploaded content



4.2.1 Create and manage categories

Before uploading content, it is useful (but not necessary) to create categories and subcategories so you can categorize the content appropriately. This makes it easier for searching. An example of a category and subcategories is as follows:

- Math (primary category)
  - Addition (subcategory)
    - Integers (subcategory)
    - Decimals (subcategory)
  - Subtraction (subcategory)
  - Multiplication (subcategory)
  - Division (subcategory)

To create categories and subcategories, do the following:

1. Click *Manage* ( ). (See Figure 17.)
2. Select *Categories*.

Figure 17: Teacher - Create categories

3. Click *Add New Primary Category*.
4. Enter a category name.
5. Click the checkmark ( ) button to add it.
6. Once a category is created, you can add subcategories. Click the plus ( ) button associated with each category. Repeat steps 4 and 5.

TIP! Note that categories assigned to *Preloaded Content* cannot be changed or deleted.

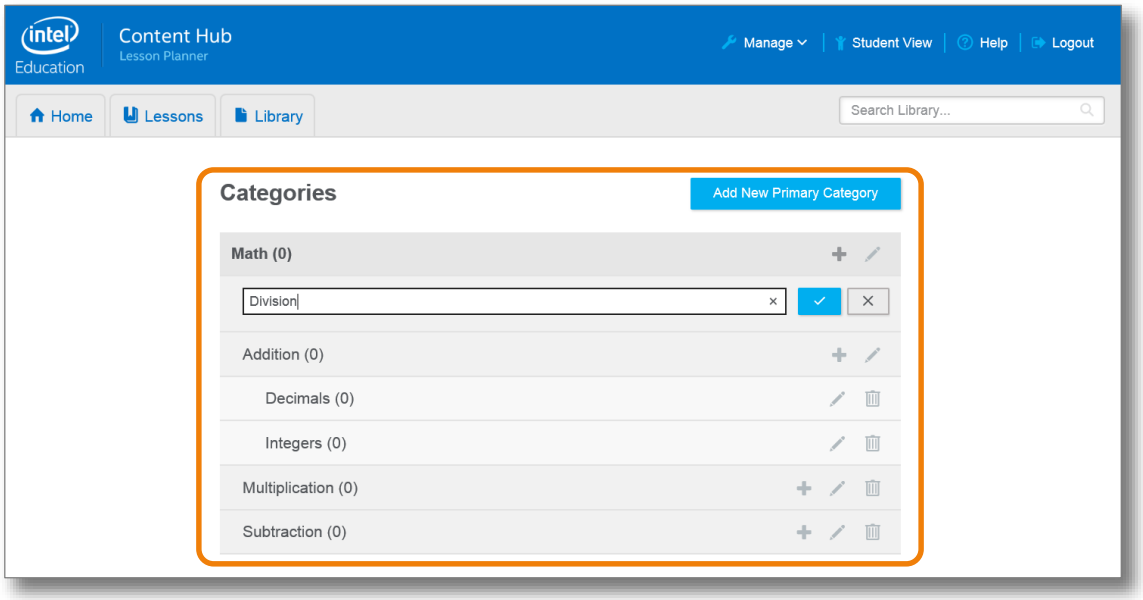
To rename a category, do the following:

1. Click the pencil ( ) button associated with it. (See Figure 18.)
2. Change the name.
3. Click the checkmark ( ) button to save it.

To delete a category, do the following:

1. Click the trashcan ( ) button associated with it. (See Figure 18.)

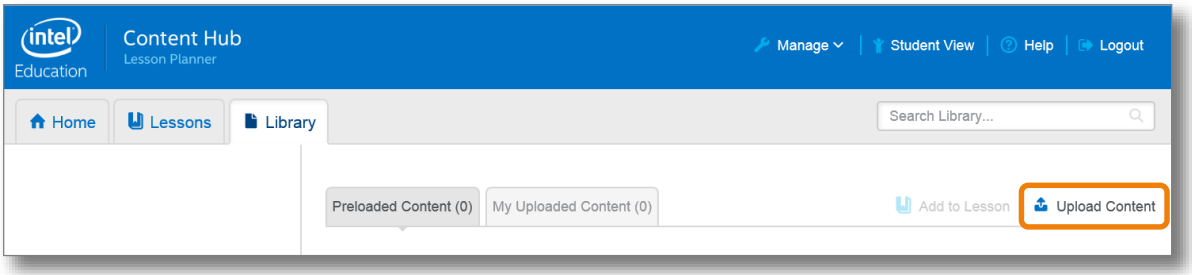
Figure 18: Teacher - Add, edit, and delete categories and subcategories



4.2.2 Upload content

1. Go to the *Library* ( ) page. (See Figure 19.)
2. Click *Upload Content* ( ).

Figure 19: Teacher - Upload content



3. Click *Browse* and select one or more files. (See Figure 20.)
4. Modify the title (if desired).
5. Add a brief description about the content.

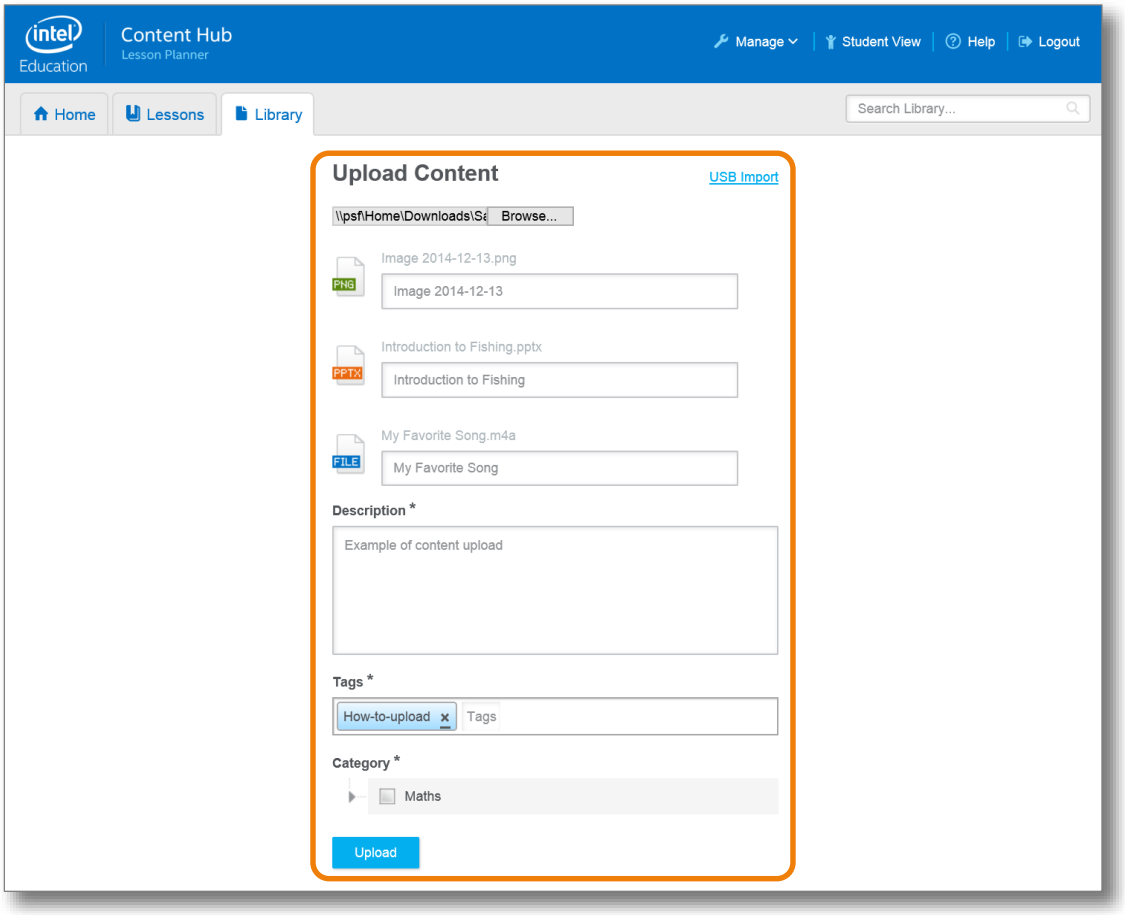
6. Add one or more tags. Tags are words used to describe content, making it easier for searching. For example: science, physics, and lab exercise.

   TIP! Existing tags can be managed (rename and delete) by clicking *Manage* ( ) and selecting *Tags*. Note that tags assigned to Preloaded Content cannot be changed or deleted.

   TIP! To add more tags to an existing content, click the *Edit Content Information* ( ) button associated with the content.

7. Assign it a category.
8. Click *Upload*. Uploaded content will appear in the *My Uploaded Content* tab.

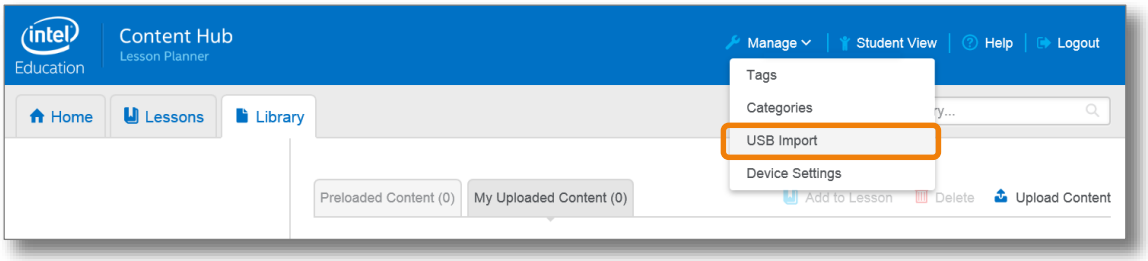
Figure 20: Teacher – Upload content, add metadata information



To upload through the device's USB port, do the following:

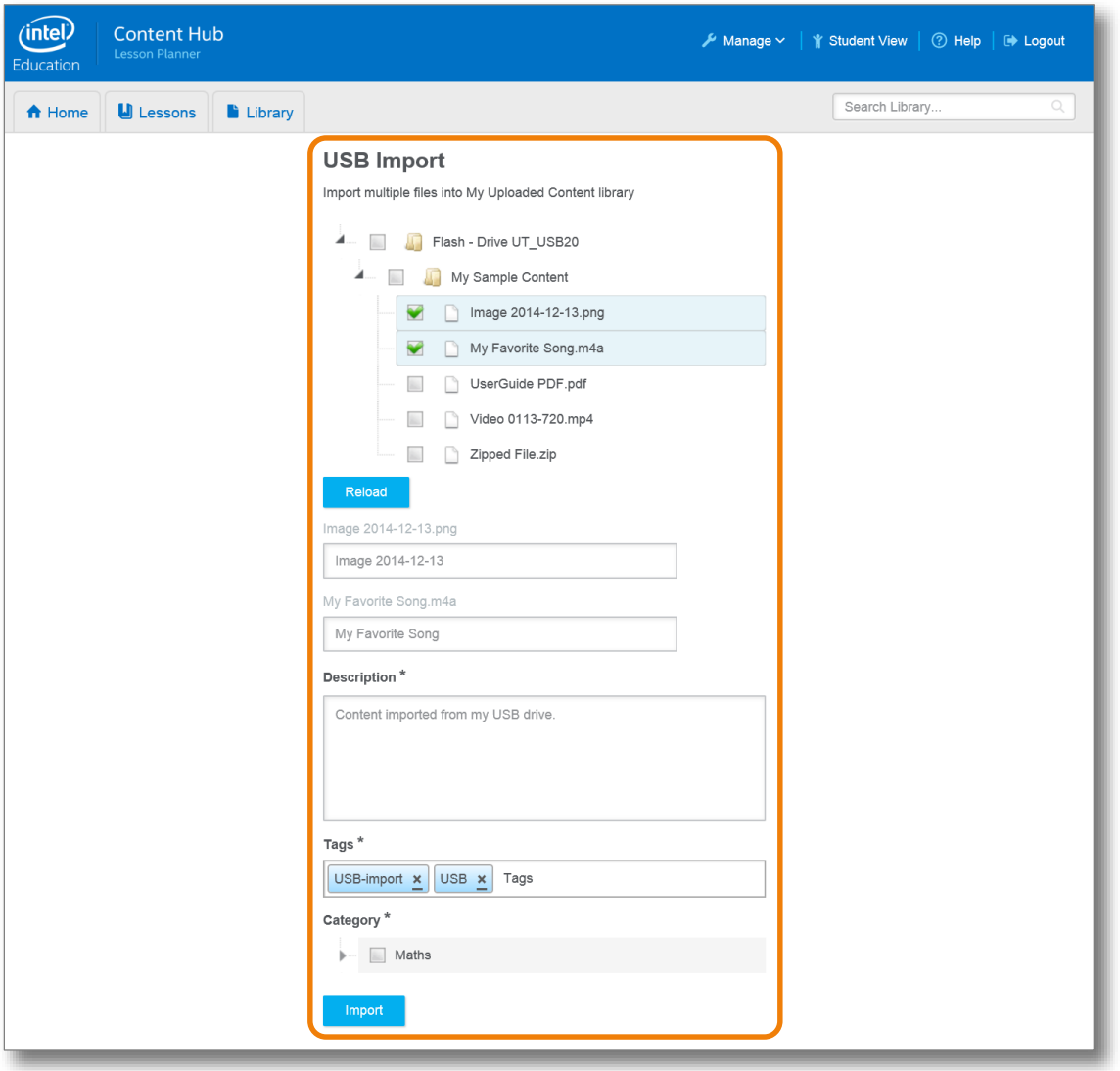
1. Plug the USB drive with the content into the USB port of the device.
2. Click *Manage* ( ). (See Figure 21.)
3. Select *USB Import*.

Figure 21: Teacher – USB import



4. Checkmark the content to upload. (See Figure 22.)

Figure 22: Teacher - Select items to import from USB



5. Modify the title (if desired).
6. Add a brief description about the content.

7. Add one or more tags. Tags are words used to describe a content file – making it easier for searching. For example: science, physics, and lab exercise.

   TIP! Existing tags can be managed (rename and delete) by clicking *Manage* ( ) and selecting *Tags*. Note that tags assigned to Preloaded Content cannot be changed or deleted.

   TIP! To add more tags to an existing content file, click the *Edit Content Information* ( ) button associated with the content.

8. Assign the content file to a category.
9. Click *Import*. Uploaded content will appear in the *My Uploaded Content* tab.

4.2.3 Open content

Some content can be opened by the browser and shown in a new tab. If the browser cannot open the file, it will download it to the default *Downloads* location. Use an appropriate application to open the file.

1. Go to the *Library* ( ) page.
2. Click either the *Preloaded Content* tab or the *My Uploaded Content* tab.
3. Click the name of the content to open.

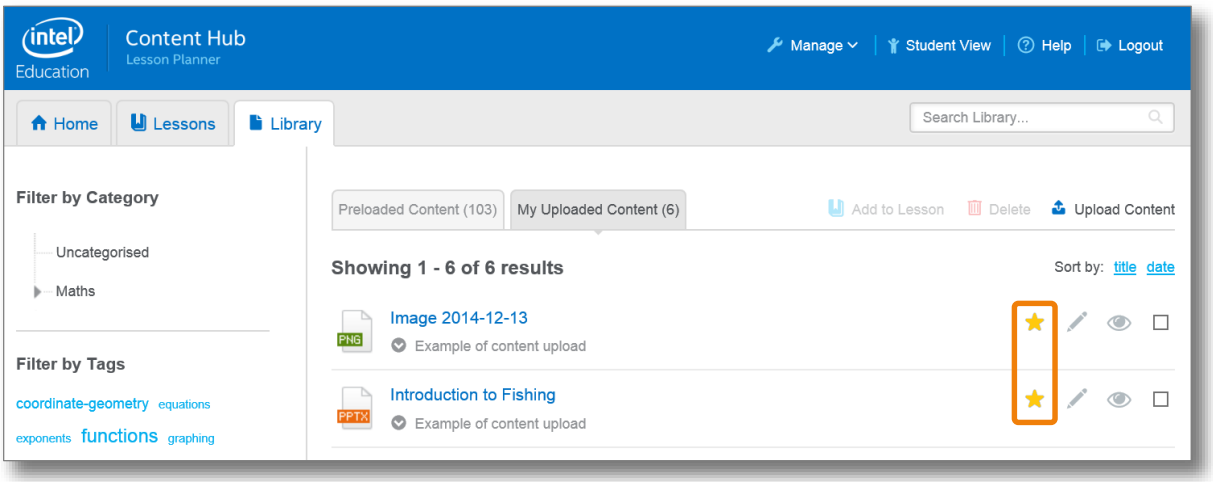
4.2.4 Feature and unfeature content

To highlight content for students to focus on, feature it. Featured content will appear in the *Home* page.

1. Go to the *Library* ( ) page. (See Figure 23.)
2. Click either the *Preloaded Content* tab or the *My Uploaded Content* tab.
3. Locate the content to feature/unfeature.
4. To feature a content file, click the star ( ) button. The star will turn yellow, and the content will appear under the *Featured Content* section in the *Home* page.
5. To unfeature a content file, click the yellow star button associated with it. The star will turn gray.

   TIP! A teacher may unfeature a featured content file from the *Home* page.

Figure 23: Teacher - Feature/unfeature content



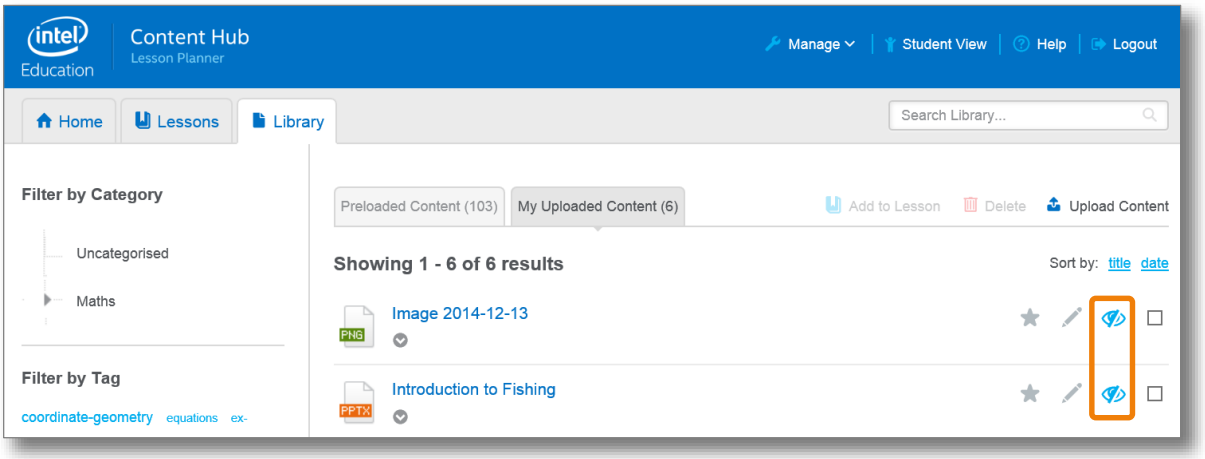
4.2.5 Hide and show content and library from students

Individual content can be hidden so students cannot access it.

1. Go to the *Library* ( ) page. (See Figure 24.)
2. Click either the *Preloaded Content* tab or the *My Uploaded Content* tab.
3. Locate the content to hide/show.
4. To hide a content file, click the eye ( ) button. A slash will appear over the eye, and students will not be able to access the content file.
5. To show a content file, click the eye with the slash ( ) button. The slash will disappear, and students will be able to access the content file.

   TIP! A teacher may hide/show a featured content file from the *Home* page.

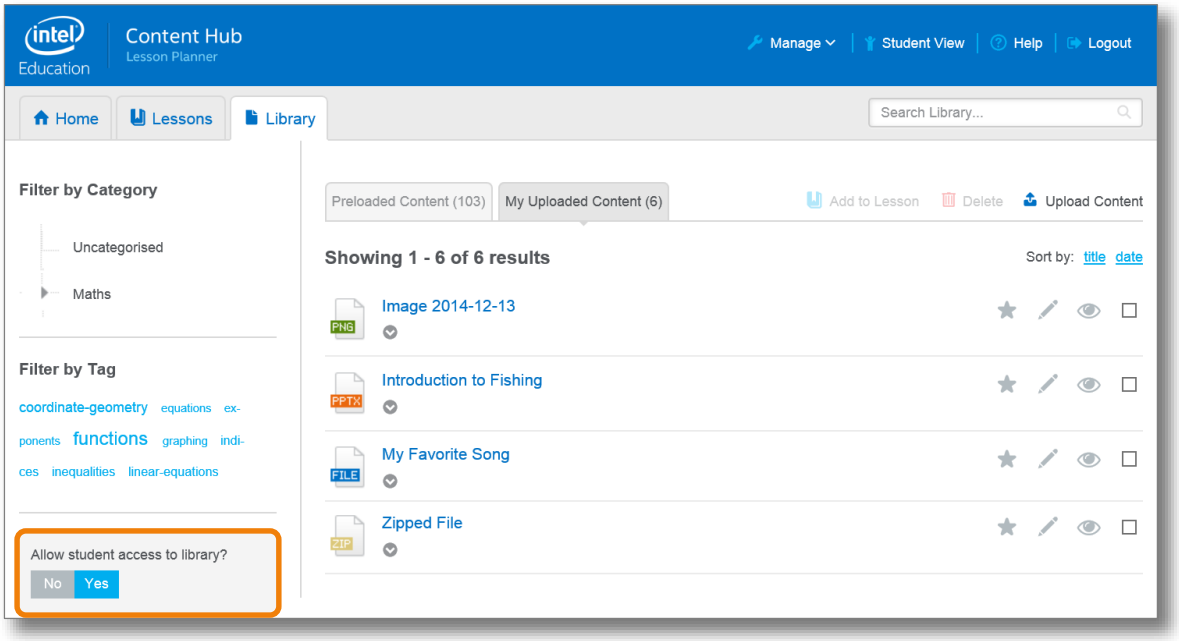
Figure 24: Teacher - Hide content



To hide/show all content (the entire Library) from students:

1. Go to the *Library* ( ) page. (See Figure 25.)
2. Locate the *Allow student access to library?* widget (bottom left).
3. To hide the Library, click *No*.
4. To show the Library, click *Yes*.

Figure 25: Teacher - Hide library from students



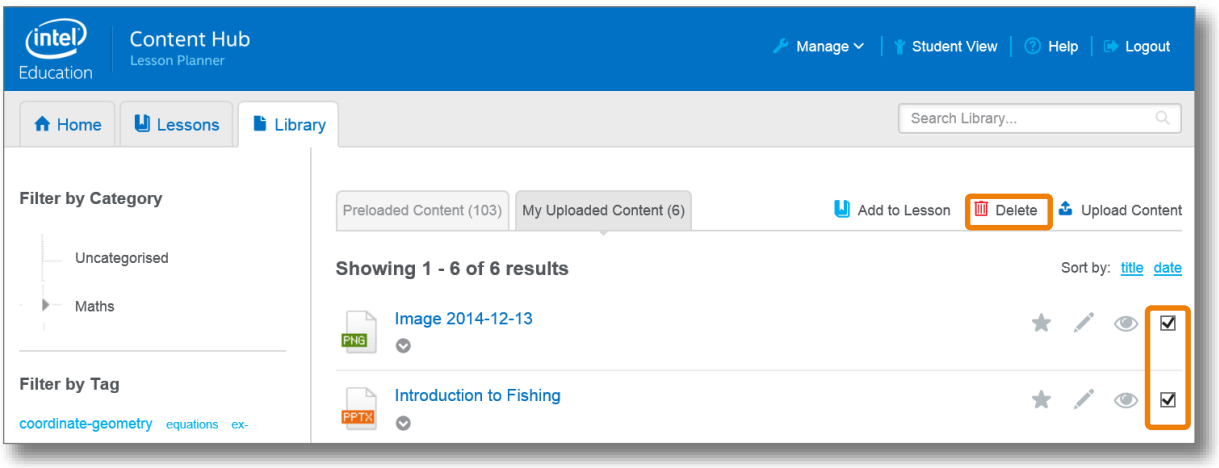
4.2.6 Delete content

1. Go to the *Library* ( ) page. (See Figure 26.)
2. Click the *My Uploaded Content* tab.

   TIP! Teachers cannot delete content files in the *Preloaded Content* area.

3. Checkmark the content to be deleted and click *Delete* ( ).

Figure 26: Teacher - Delete content



4.2.7 Edit details of content

1. Go to the *Library* ( ) page.
2. Click the *My Uploaded Content* tab.

   TIP! Teachers cannot modify details in the *Preloaded Content* area.
3. Locate the content to edit details.
4. Click the pencil ( ) button.
5. Edit the details as desired.
6. Click *Save* to save changes.

   TIP! A teacher may edit the details of a featured content file in *My Uploaded Content* from the *Home* page.

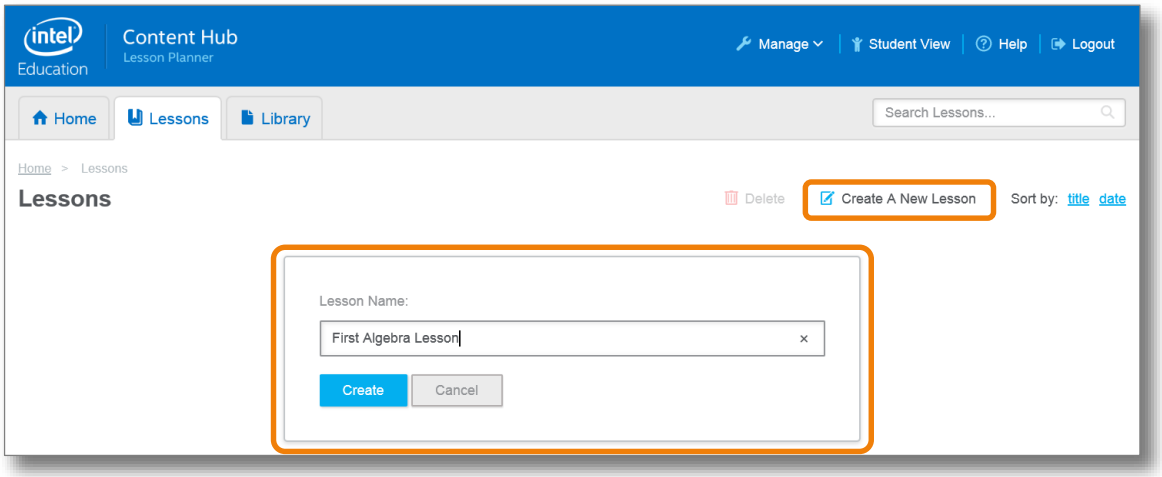
4.3 Create and manage lessons

A lesson is collection of one or more content files that teachers create for students. The *Lessons* page is where lessons are created, viewed, and managed (delete, feature, edit).

4.3.1 Create a lesson name

1. Go to the *Lessons* ( ) page. (See Figure 27.)
2. Click *Create a New Lesson*.
3. Enter the name of the lesson when the pop-up appears.
4. Click *Create*.

Figure 27: Teacher - Create lesson

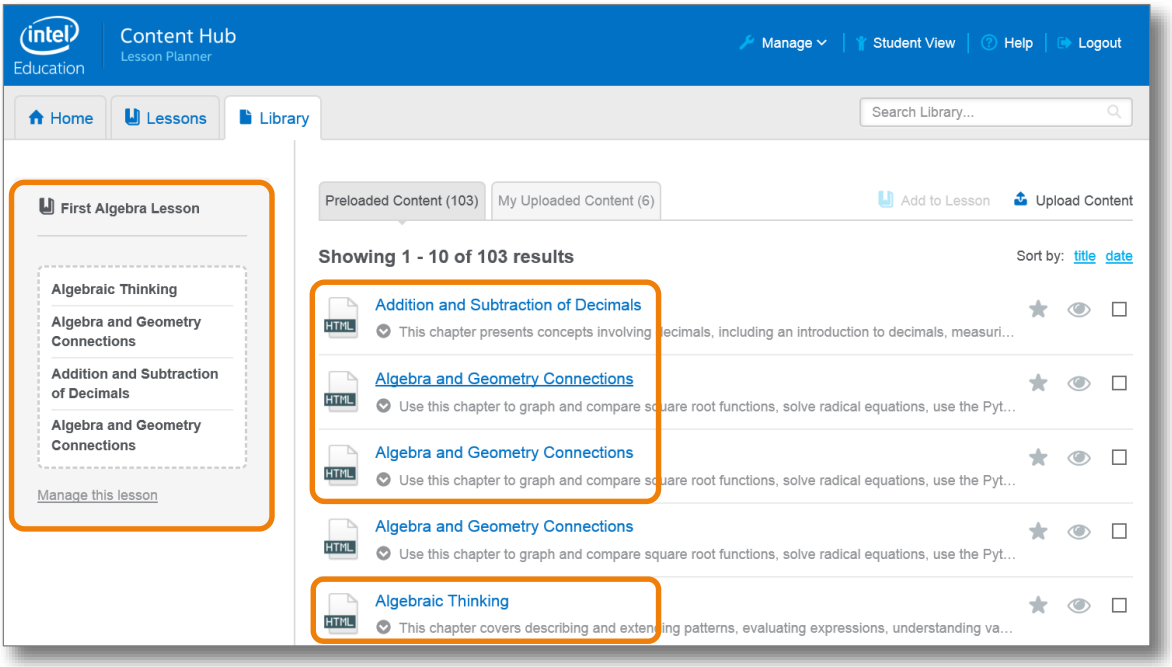


4.3.2 Add content to a lesson

There are two ways to add content to a lesson.

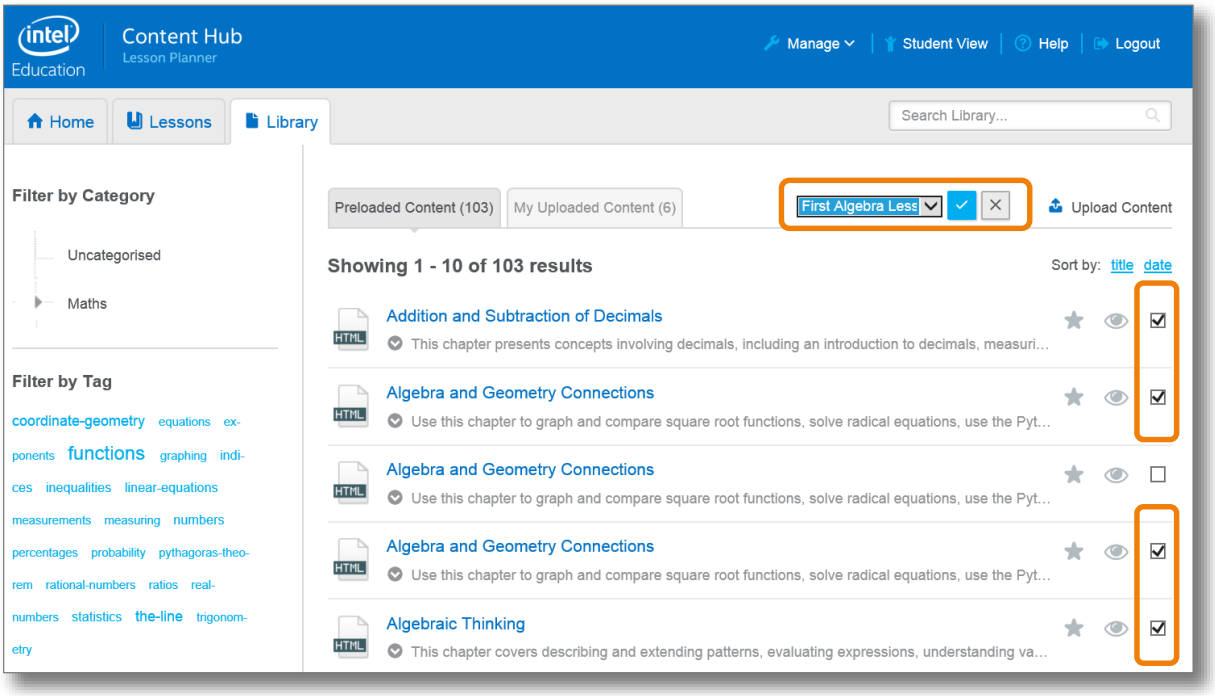
1. Method #1:
   a. Go to the *Lessons* ( ) page. (See Figure 28.)
   b. Click the plus (✚) button under the lesson. The lesson name will show up in the Library page with an empty box on the left side.
   c. Click either the *Preloaded Content* tab or the *My Uploaded Content* tab.
   d. Drag and drop each content item into the lesson box.

Figure 28: Teacher - Add content to lesson with drag-and-drop



2. Method #2:
   a. Go to the *Library* ( ) page. (See Figure 29.)
   b. Click either the *Preloaded Content* tab or the *My Uploaded Content* tab.
   c. Checkmark the desired content.
   d. Click *Add to Lesson* and a dropdown list of lessons will appear.
   e. Select the lesson name.
   f. Click the checkmark ( ) button to add.

Figure 29: Teacher - Add content to lesson using dropdown list



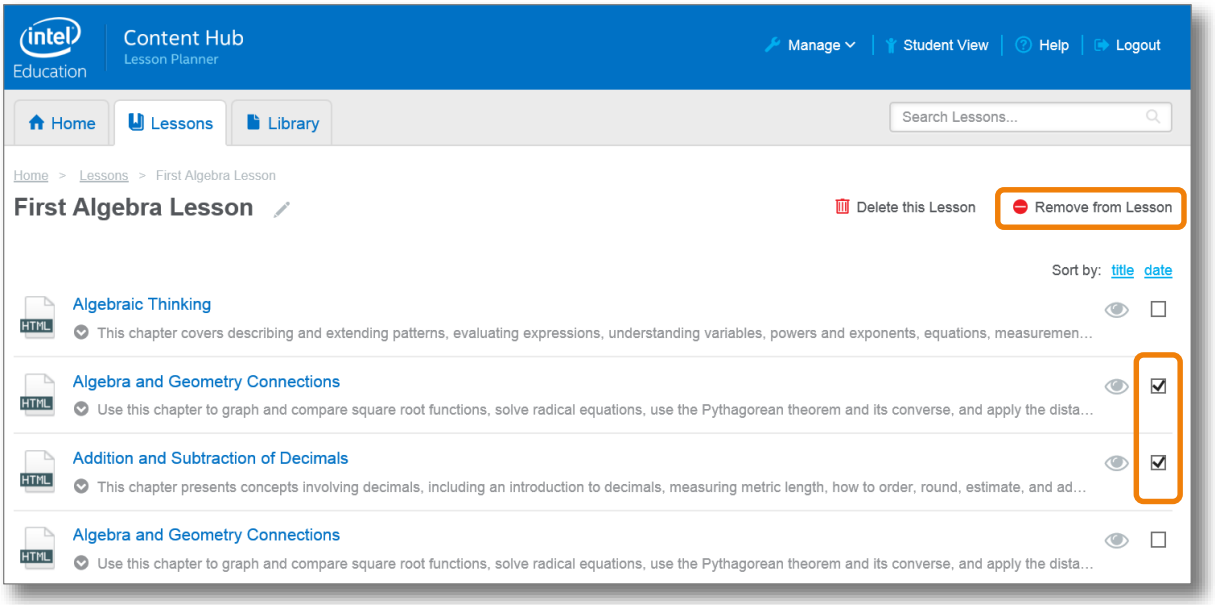
4.3.3 Show contents within a lesson

1. Go to the *Lessons* ( ) page.
2. Click the lesson to reveal content within.

4.3.4 Remove content from a lesson

1. Go to the *Lessons* ( ) page. (See Figure 30.)
2. Click the lesson to reveal content.
3. Checkmark the desired content to remove.
4. Click *Remove From Lesson* ( ).

Figure 30: Teacher - Remove content from lesson

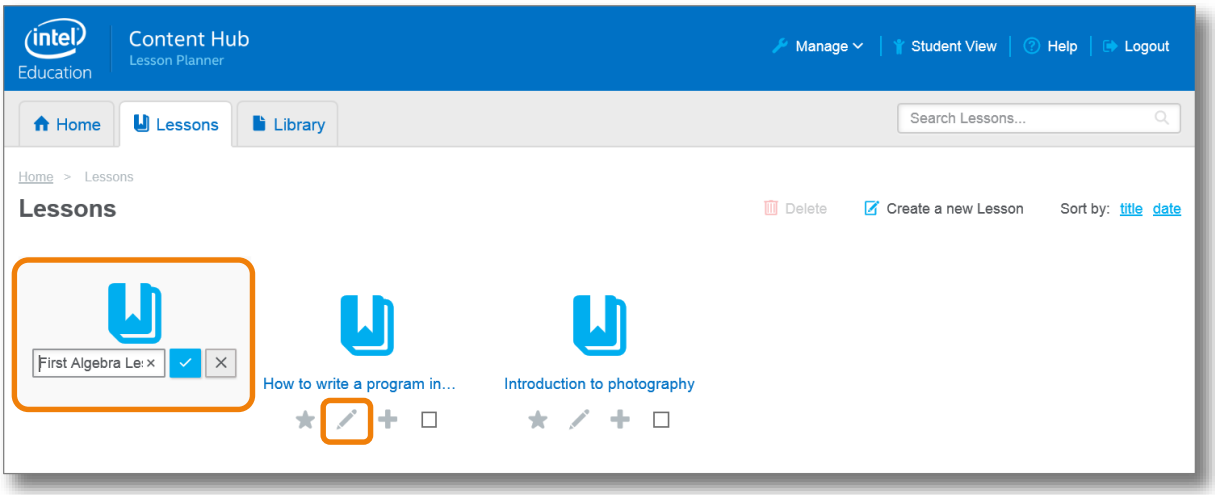


4.3.5 Edit a lesson name

1. Go to the *Lessons* ( ) page. (See Figure 31.)
2. Click the pencil ( ) button.
3. Change the lesson name.
4. Click the checkmark ( ) button to save.

TIP! A teacher can also rename a featured lesson from the *Home* page.

Figure 31: Teacher - Edit lesson name



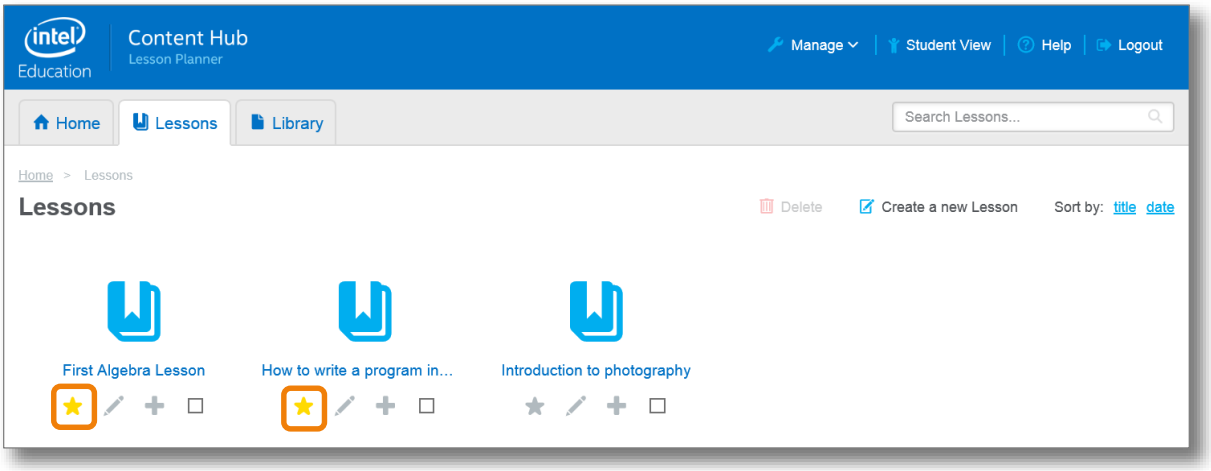
4.3.6 Feature and unfeature a lesson

To highlight lessons that students should focus on, feature it. Featured lessons will appear in the *Home* page.

1. Go to the *Lessons* ( ) page. (See Figure 32.)
2. Locate the lesson to feature/unfeature.
3. To feature a lesson, click the star (★) button under the lesson and it will turn yellow. The lesson will now appear under the *Featured Lessons* section in the *Home* page.
4. To unfeature a lesson, click the yellow star button under the lesson and it will turn gray.

   TIP! A teacher can also unfeature a featured lesson from the *Home* page.

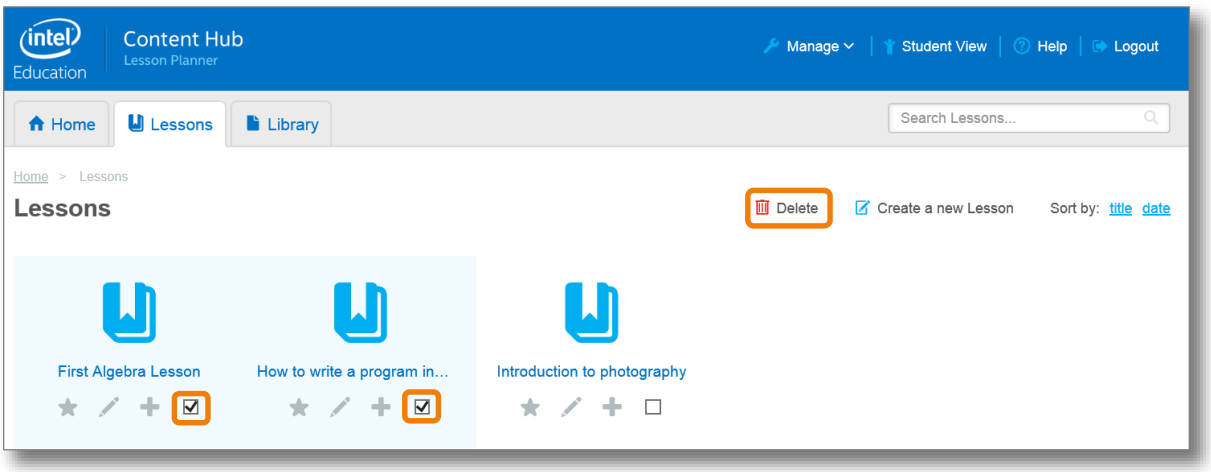
Figure 32: Teacher - Feature/unfeature lesson



4.3.7 Delete a lesson

1. Go to the *Lessons* ( ) page. (See Figure 33.)
2. Checkmark the desired lessons to be deleted.
3. Click *Delete* ( ).

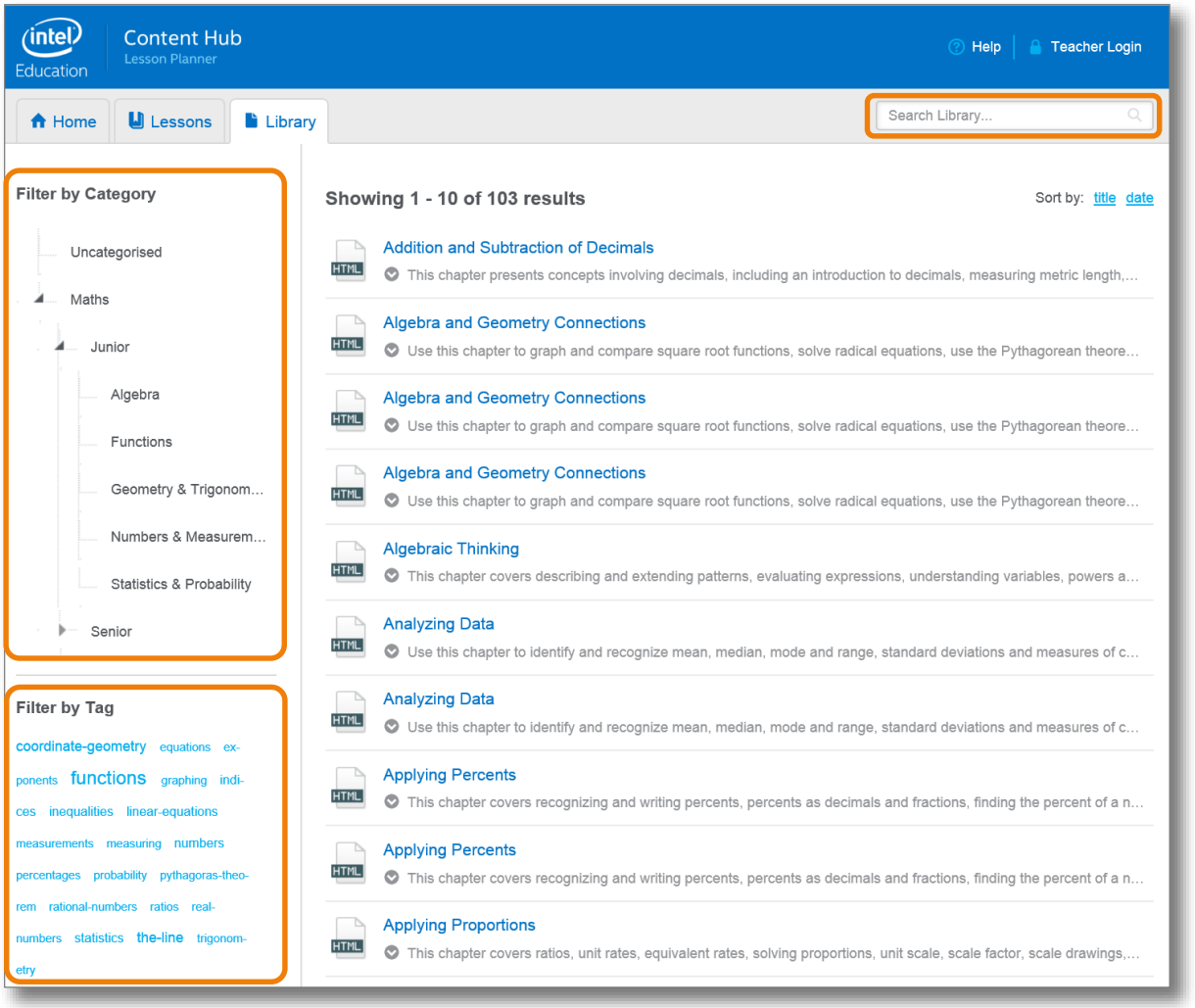
Figure 33: Teacher - Delete lesson



4.4 Search for content and lessons

1. To search for content, go to the *Home* or *Library* page. (See Figure 34.)
   a. Enter the search keywords in the *Search* field. The keyword can be a tag, a description, or content file name.
   b. Another way to search in the Library page is by filtering based on a category or a tag.
      i. To filter by category, expand the desired category under the *Filter by Category* area.
      ii. To filter by tag, click the desired tag under the *Filter by Tag* area.
2. To search for lessons, go to the *Lessons* page and enter the lesson name in the *Search* field.

Figure 34: Teacher - Search for lessons and content



4.5 Device settings

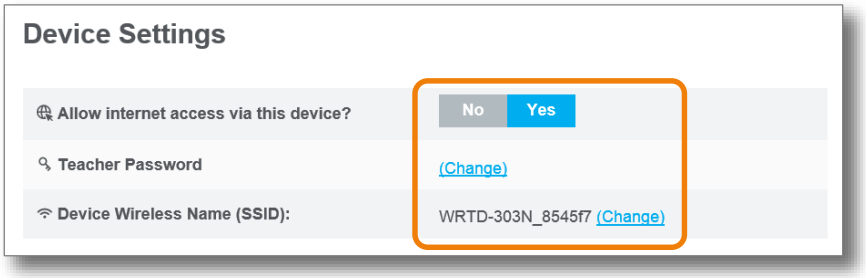
In *Device Settings*, a teacher can change the following settings:

- Disable and enable Internet access.
- Change teacher's password.
- Change the wireless name (SSID) of the device.

1. Click *Manage* ( ). (See Figure 35.)
2. Select *Device Settings*.

Figure 35: Teacher - Manage device settings

Figure 36: Teacher - Change device settings



4.5.1 Disable and enable Internet

Sometimes it may be necessary to temporarily disable the Internet connection during class time to prevent distractions. (See Figure 36.)

1. To disable the Internet connection, set *Allow Internet access via this device?* to No.
2. To enable the Internet connection, set *Allow Internet access via this device?* to Yes.

4.5.2 Change teacher's password

1. Click *Change*. (See Figure 36.)
2. Enter the old and new passwords, and confirm the new password.
3. Click *Update*.

4.5.3 Change the wireless name (SSID) of the device

1. Click *Change*. (See Figure 36.)
2. Enter the new SSID name.
3. Click the checkmark ( ) button for the change to take effect.
4. Reconnect using the new wireless name (SSID).

§

5 Advanced Admin Guide

This section provides detailed instructions on how to configure the Intel® Education Content Access Point device. This is intended for IT administrators with advanced networking knowledge.

5.1 Log on as admin

1. Wirelessly connect to the device.
2. Launch a browser and go to *http://my.admin* (or *http://192.168.88.1:8080)*.
3. Enter the admin username and password.

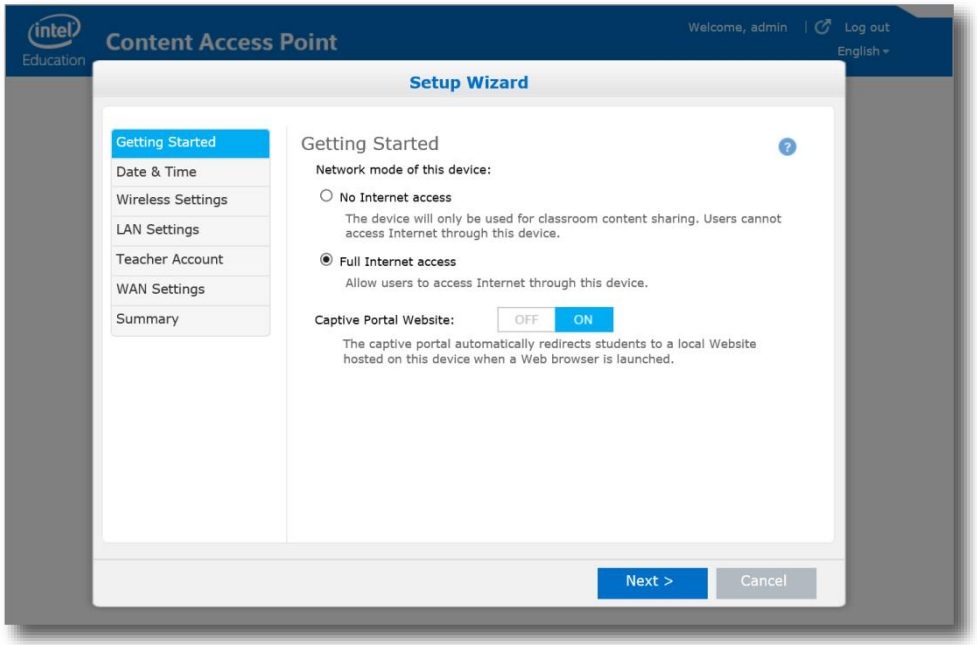
   TIP! The factory default admin username/password is *admin/admin*.

5.2 Setup wizard

To set up the Intel® Education Content Access Point quickly, use the guided Setup Wizard. (See Figure 37.)

1. Click *Setup Wizard* and configure the following:
   a. Network mode
   b. Date and time
   c. Wireless settings
   d. LAN settings
   e. Set teacher account username and password
   f. WAN and 3G/4G/LTE settings
2. Click *Save*.

Figure 37: Admin - Setup wizard



5.3 Status information

You can get status information from the *Dashboard* and *Wireless Status* pages.

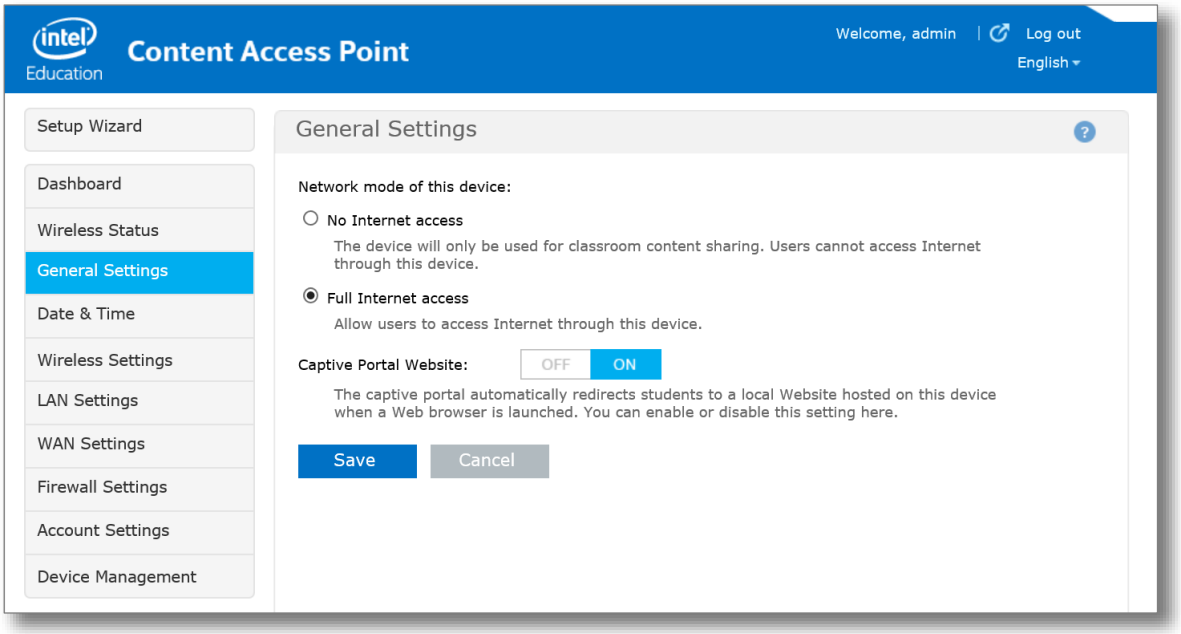
- The *Dashboard* page shows overall system status.
- The *Wireless Status* page shows the list of connected clients.

5.4 General settings

The network mode determines whether or not users can access the Internet through the Intel® Education Content Access Point. If enabled, the captive portal mode automatically redirects a client's browser to the Content Hub website when a Wi-Fi connection is established. (See Figure 38.)

1. Select a network mode:
   - *No Internet access.* The device will only be used for classroom content sharing. Users cannot access the Internet through this device.
   - *Full Internet access.* Allow users to access the Internet through this device.
2. Set *Captive Portal* mode. When set to ON, the user's browser is redirected to the primary website when a wireless connection is established with the device.
3. Click *Save*.

Figure 38: Admin - General settings

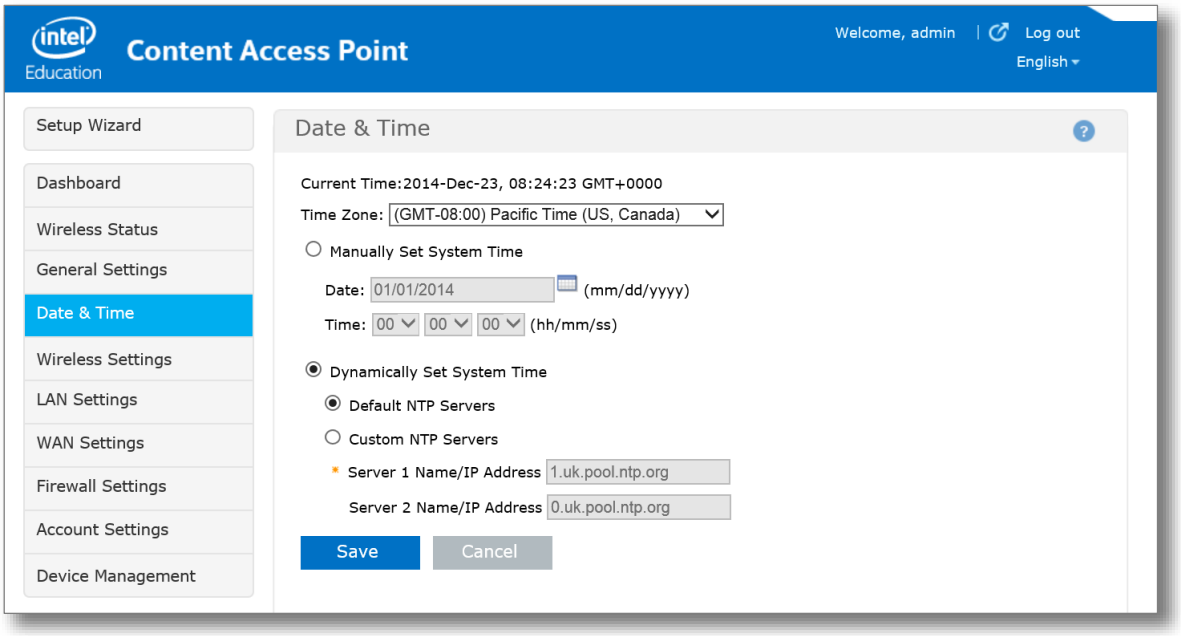


5.5 Date and time

Configure the date and time of the Intel® Education Content Access Point. (See Figure 39.)

1. Choose an appropriate time zone from the *Time Zone* list.
2. Select one of two ways to set the date and time:
   a. To manually set the date and time, select *Manually Set System Time* and enter appropriate values.
   b. To automatically synchronize the date and time with predefined NTP servers, select *Dynamically Set System Time* (the default). To use a different NTP server, select *Custom NTP Servers* and enter the NTP server.
3. Click *Save*.

Figure 39: Admin - Date and time settings



5.6 Wireless settings

Configure the wireless access point and an access control list. (See Figure 40.)

5.6.1 Wireless access point

1. Enter the *SSID Name*. The default SSID is *WRTD-303N_xxxxxx*, where "xxxxxx" is the last six digits of the Wi-Fi MAC address (WFM), which is printed on the bottom of the device. For example, for a device with a WFM of F835DD**85457A**, the wireless SSID is **WRTD-303N_85457A**.
2. Select the *Wireless Mode*. Default is 802.11 b/g/n mixed – 2.4 GHz.
3. Select the *Wireless Channel*. Default is Auto, which means the optimal channel is determined.
4. Select the *Bandwidth Channel*. Default is 20 MHz.

   TIP! 40/20 MHz is for 802.11 n/ac and 80/40/20 MHz is for 802.11ac only.

5. Select the *Extension Channel* direction (lower or upper) for the channel bonding.

   TIP! This option is not configurable if the *Wireless Channel* is set to Auto and *Bandwidth Channel* is 20 MHz.

6. Set *Anti-Interference Mode*. Default is Off. To improve wireless performance in a noisy environment, set this mode to On.
7. Select Security Mode.

   a. Default is *Open*.
   b. If *WEP* is selected, configure the following:

   - Authentication Type: Select the authentication type.
   - Default Transmission Key: Set selected key as the default key to use.
   - WEP Key Type: Select the encryption type.
   - Passphrase: Enter a passphrase and click the *Generate* button, which will generate the four WEP keys below.

   c. If *WPA/WPA2* is selected, configure the following:

   - Encryption Type: Select the data encryption algorithm.
   - Passphrase: Enter the passphrase.

8. Click *Save*.

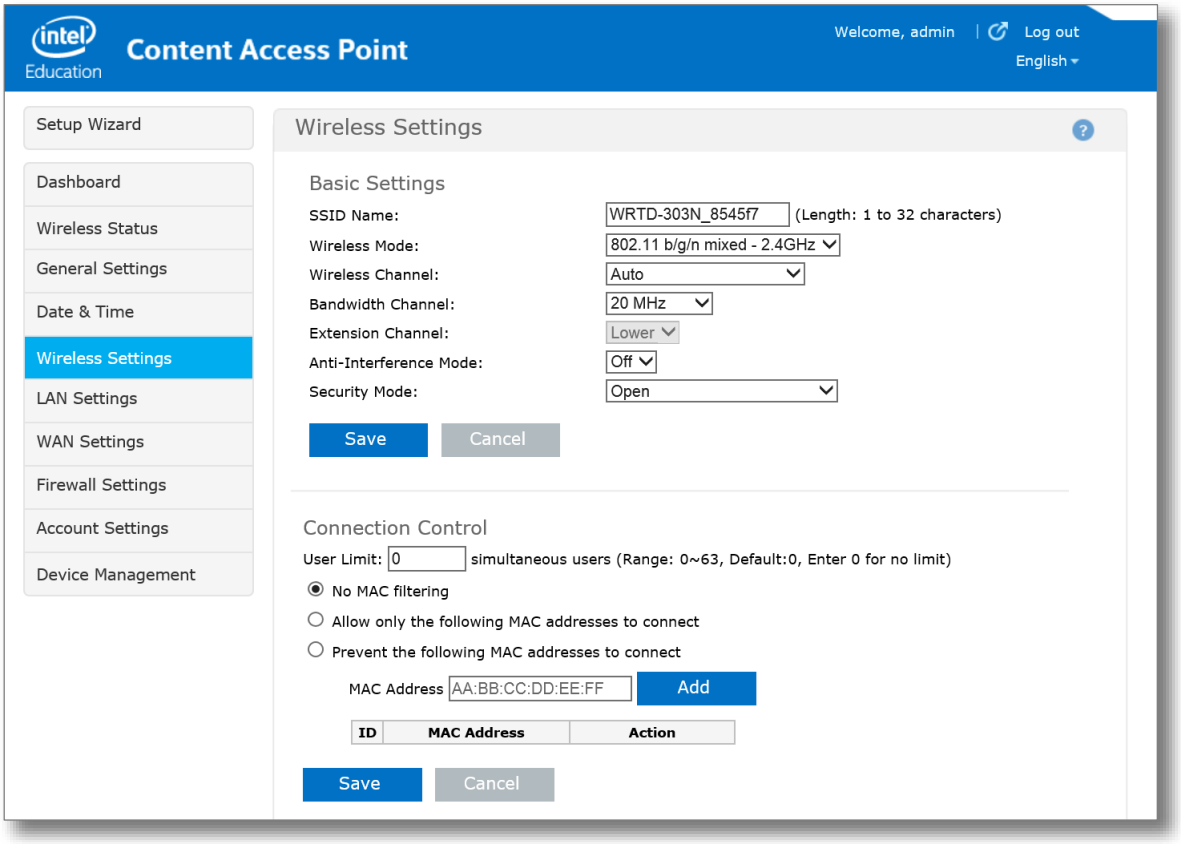
5.6.2 Access control list

1. Set the maximum number of clients that can connect simultaneously with *User Limit*. Default is 0, which means no limit.
2. Access control configuration:

   a. By default, *No MAC Filtering* is selected.
   b. To whitelist (allow): Select *Allow only the following MAC addresses to connect*.
   c. To blacklist (don't allow): Select *Prevent the following MAC address to connect*.
   d. Enter each MAC address in the *MAC Ad*dress field and click *Add*.

3. Click *Save*.

Figure 40: Admin - Wireless settings and access control list



5.7 LAN settings

Set the IP address (LAN side) and DHCP server configuration of the Intel® Education Content Access Point. (See Figure 41.)

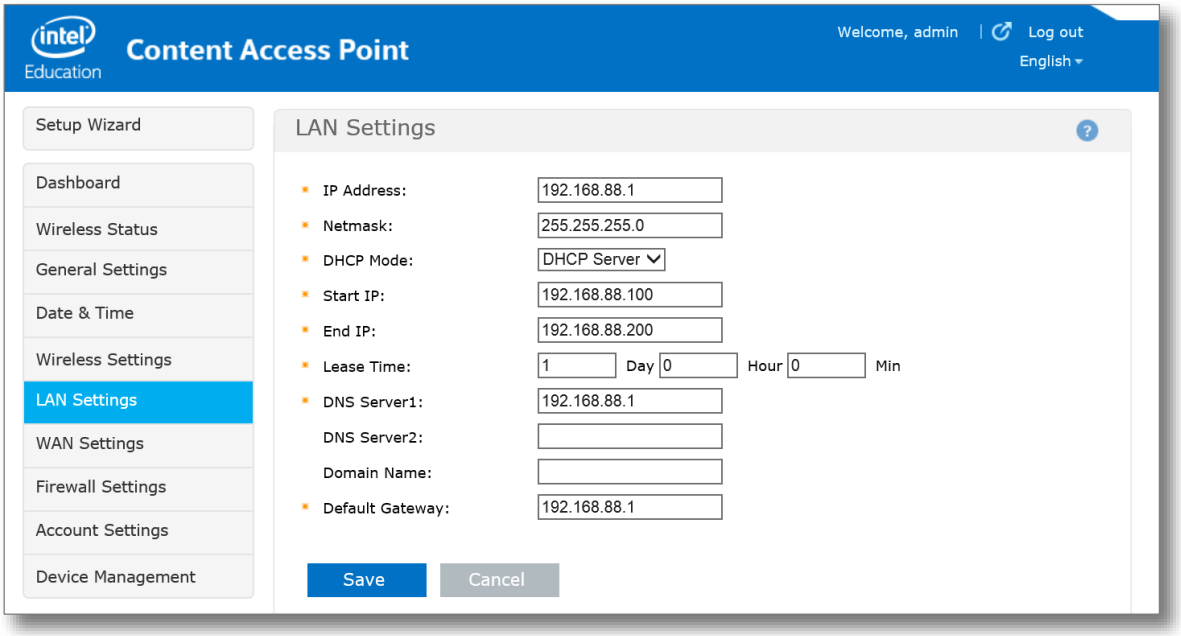
5.7.1 IP address

1. Enter the desired *IP Address*. The default IP address is 192.168.88.1.
2. Enter the desired *Netmask*. The default netmask is 255.255.255.0.
3. Click *Save*.

5.7.2 DHCP Server

1. To enable the DHCP server, set the *DHCP Mode* to *DHCP Server*.
2. Enter the IP address range with *Start IP* and *End IP*.
3. Enter the *Lease Time* of an IP address.
4. Enter the primary DNS server IP address in the *DNS Server1* field and an alternate in the *DNS Server2* field.
5. Enter the *Domain Name*.
6. Enter the *Default Gateway*.
7. Click *Save*.

Figure 41: Admin - LAN settings



5.8 WAN settings

The Intel® Education Content Access Point provides two types of WAN connections: Ethernet-based through the Ethernet port and cellular-based when a micro-SIM card is installed. By default, the Ethernet connection is the primary connection if both are enabled. If the Ethernet connection fails, it will switch over to the cellular connection automatically and switch back once restored.

5.8.1 Ethernet-based WAN

1. Go to *WAN Settings.* (See Figure 42.)
2. Select the IP address assignment type:
   a. Use *DHCP Client* if an IP address is automatically assigned.
   b. Use *Static IP* if a static IP address must be entered.
3. Set the MTU size.
   a. By default, this value is automatically set to 1500 bytes.
   b. To set a specific value, select *Manual* and enter the value in the *MTU Value* field.

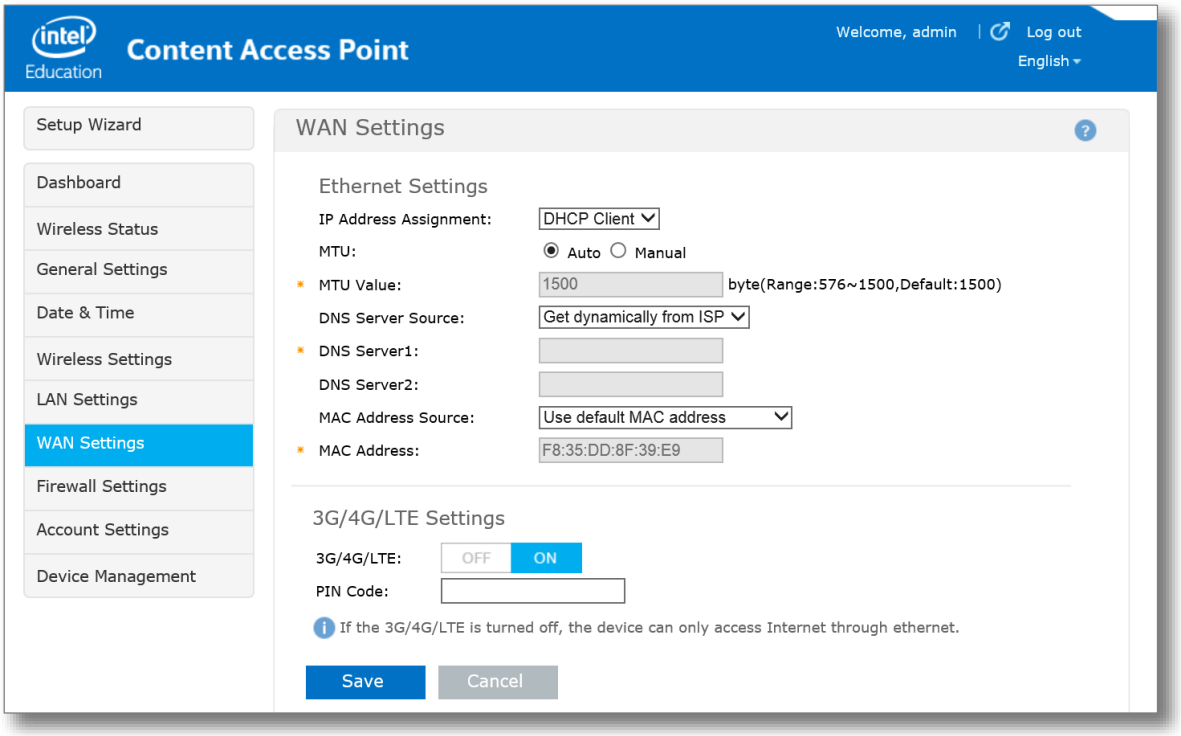
   TIP! MTU (maximum transmission unit) defines the largest size an IP packet can be.
4. Set the DNS server source.
   a. By default, this is set to *Get Dynamically from ISP*, which means the service provider automatically sets this information.
   b. To use a different DNS server, set it to *Use these DNS Servers*. Then enter the primary DNS server IP address in the *DNS Server1* field and an alternate in the *DNS Server2* field.
5. Set MAC source address.
   a. By default, the factory-assigned MAC address of the Ethernet WAN port is used to identify it.
   b. To assign a custom MAC address, select *Use the following MAC address* and enter the new MAC address in the *MAC Address* field below.
6. Click *Save*.

5.8.2 Cellular-based WAN

TIP! Recommended tools: Phillips screwdriver and small flathead screwdriver.

1. Install a micro-SIM card.
   a. Turn off the device, and disconnect the Ethernet and power cables.
   b. Turn the device over to access the bottom cover.
   c. Remove the four rubber screw-hole plugs.
   d. Loosen and remove the four screws.
   e. Lift off the bottom cover.
   f. Disconnect the battery cable. (Note the orientation of the connector for later reattachment.)
   g. Open the micro-SIM card slot by pushing the metal cover in the direction of the arrow and lifting it up.
   h. Install the micro-SIM card. Match the notched corner of the micro-SIM card with the notch of the slot. You will need a micro-SIM adapter if you are using a nano-SIM card.
   i. Reassemble the device.
   j. Reconnect the Ethernet and power cables.
   k. Power the device by pressing and holding the power button for two seconds.
2. Go to *WAN Settings.* (See Figure 42.)

Figure 42: Admin - WAN settings



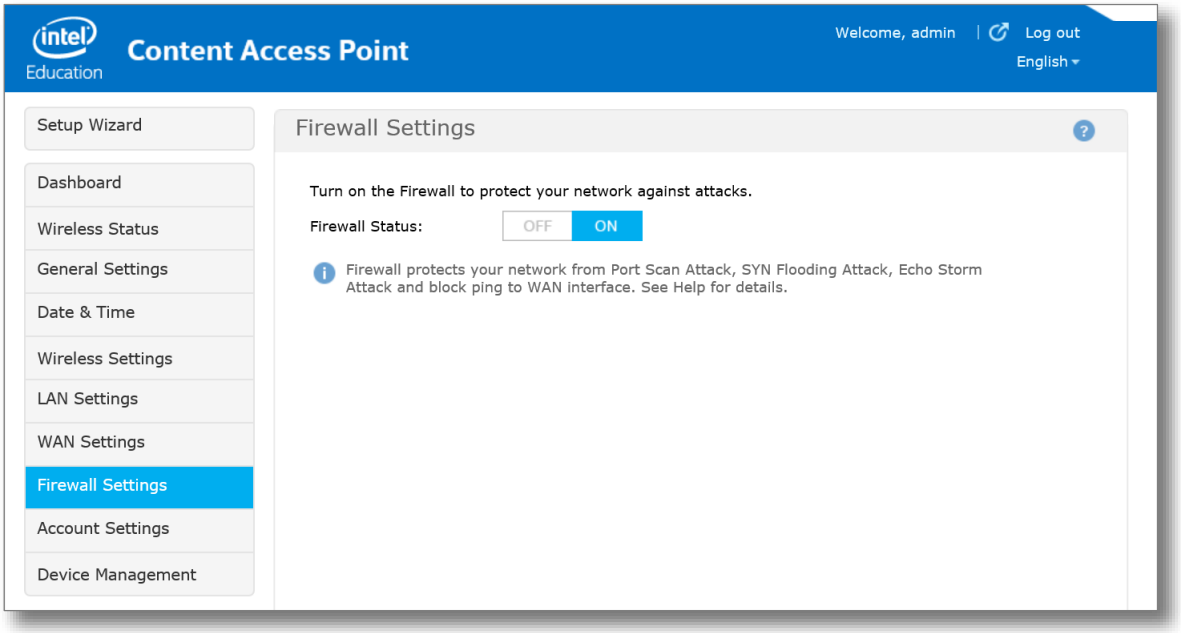
3. Set 3G/4G/LTE to *ON*.
4. Enter the PIN code (if applicable).
5. Click *Save*.

5.9 Firewall settings

The firewall, which is enabled by default, protects against Portscan, SYN flooding, and Echo storm attacks. It also blocks pings against the WAN interface. To disable the firewall, do the following:

1. Go to *Firewall Settings.* (See Figure 43.)
2. Click *OFF.*

Figure 43: Admin - Firewall settings



5.10 Account settings

You can manage the admin and the teacher account information here.

5.10.1 Admin account

1. Go to *Account Settings.* (See Figure 44.)
2. Enter the Admin's username.
3. Enter the Admin's password and confirm it. The Admin's password must be at least 8 characters long (16 max), and must contain at least one capitalized character and at least one numeral.
4. Click *Save* for the changes to take effect.

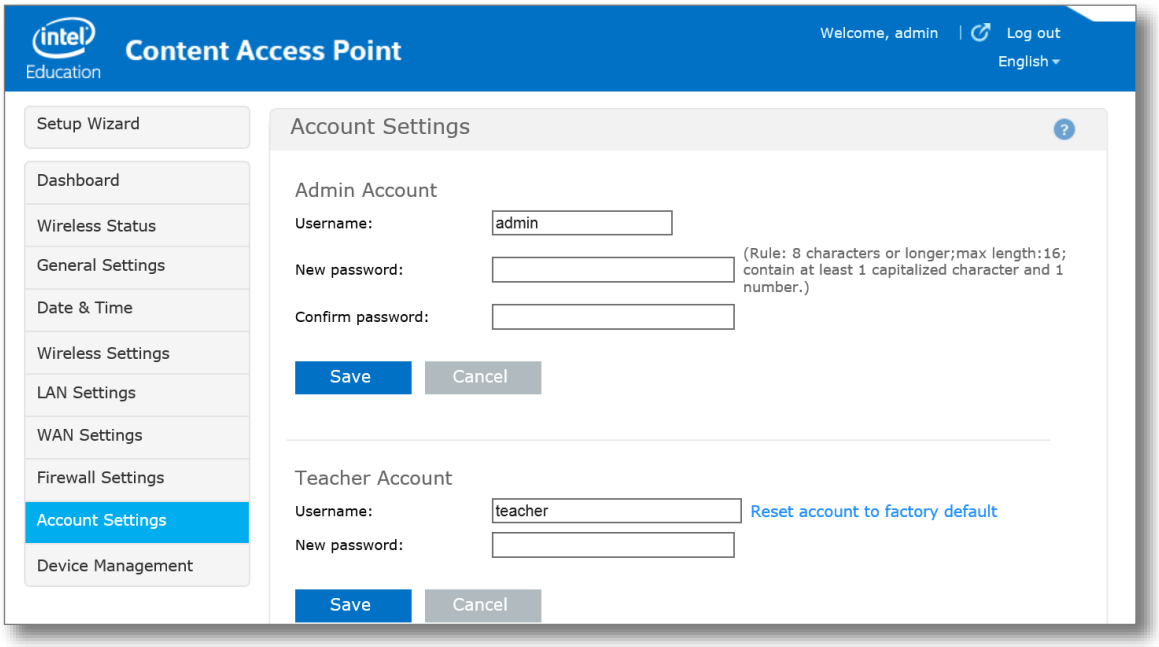
5.10.2 Teacher account

1. Go to *Account Settings.* (See Figure 44.)
2. Enter the teacher's username.
3. Enter the teacher's password.
4. Click *Save.*

TIP! To reset the teacher account to factory default, click *Reset account to factory default*. This will set the teacher account username to "teacher" with the password "teacher".

5. Reboot the device for the changes to take effect.

Figure 44: Admin - Account settings



5.11 Device management

5.11.1 Update firmware

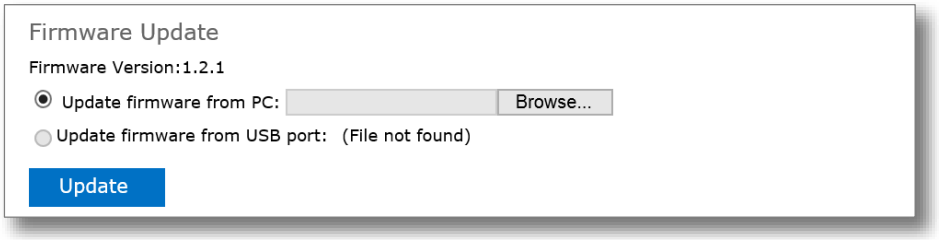
CAUTION: The device will reboot as part of the firmware update process. This will temporarily disrupt network and content access for users.

1. Go to *Device Management > Firmware Update.* (See Figure 45.)
2. Select the method of supplying the firmware file.
   a. Upload the file from the local computer.
   b. Use a USB flash drive. For this method, format a USB flash drive (NTFS or FAT32), put the file on it, plug it into the USB port of the device, and refresh the *Device Management* page. The file will appear following "Update firmware from USB port".

Note: The firmware update file's extension must be ".tgz". If the browser changed the file's extension during the download process, change it back to ".tgz".

3. Click *Update*.
4. Wait a couple of minutes for the upgrade to complete.
5. Verify that the upgrade was successful by logging on and checking the firmware version on the Dashboard.

Figure 45: Admin - Device management - Firmware update



5.11.2 Manage preloaded content database

CAUTION:

- Uploading to and updating the *Preloaded Content* database will erase existing teacher-uploaded content in the *My Uploaded Content* space.
- The device will reboot as part of the content upload process. This will temporarily disrupt network and content access for users, who will see a "503 – Service Not Available" message during the process.

There are two ways to upload content to the *Preloaded Content* database. The first is through the web-based Admin console. This method only allows one upload at a time, and the file size is limited to no more than 2 GB. The second is through the network shared drive on the device. This allows upload of one or more files at a time and supports larger than 2 GB file size. Uploaded content will appear in the *Preloaded Content* tab of the Content Hub Library.

1. Create a package containing the content to upload:
    a. Zip the content into a file called *content_xyz.zip* (also known as the package), where "xyz" can be any combination of letters and numbers (for example, *content_123.zip*, *content_abc.zip*, *content_a1b2c3.zip*, etc.).
    b. Do not include subfolders.
    c. Do not encrypt or password-protect the zipped file.
    d. Total size must not exceed 2 GB. (This limit is for upload through Admin console only.)
2. Upload through the Admin console:
    a. Go to *Device Management > Preloaded Content Database.* (See Figure 46.)
    b. Specify the location of the package (a local computer or a storage device connected to the USB port in the Intel® Education Content Access Point).

    TIP! If you are uploading from a USB drive connected directly to the device, put the package in the root directory and plug in the drive. The package file will display after you refresh the admin screen.

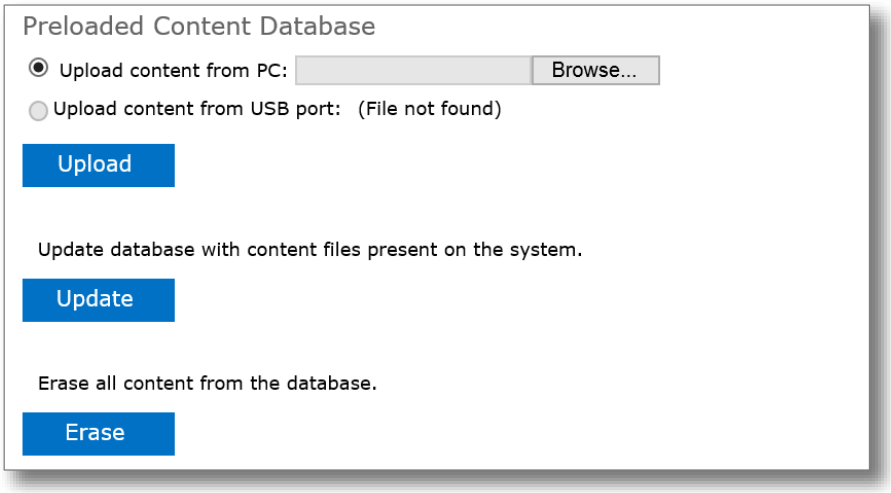
    c. Click *Upload*.
3. To upload one or more packages through the network shared drive:
    a. Connect to the network share on the device at *192.168.88.1**preloaded*.
    b. Enter the admin username and password.
    c. Copy all the packages to the shared drive.
    d. Go to *Device Management > Preloaded Content Database.* (See Figure 46.)
    e. Click *Update*.
4. To delete a package from the database:
    a. Connect to the network share on the device at *192.168.88.1**preloaded*.
    b. Enter the admin username and password.
    c. Delete the package.

d. Go to *Management > Preloaded Content Database*. (See Figure 46.)
e. Click *Update*.

5. To erase the entire *Preloaded Content* database:

a. Go to *Device Management > Preloaded Content Database*. (See Figure 46.)
b. Click *Erase*.

Figure 46: Admin - Device management - Preloaded content database



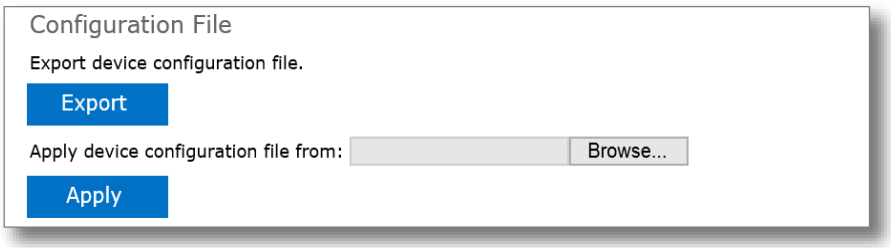
5.11.3 Backup and restore the configuration settings

Once the device has been configured properly, it's a good idea to save the settings for future uses such as replicating the settings to multiple devices, restoring settings in case of corruption, etc.

CAUTION: The device will reboot as part of the configuration setting restoration process. This will temporarily disrupt network and content access for users.

1. Go to *Device Management > Configuration File*. (See Figure 47.)
2. To back up settings, click *Export*. This will generate a "configure.xml" file and save it to the browser's default *Downloads* location.
3. To restore settings, click *Browse* and select a "configure.xml" file.
4. Click *Apply*.

Figure 47: Admin - Device management - Configuration file



5.11.4 Reboot the device

There are two ways to reboot the device:

Through the Admin console (preferred method):

1. Go to *Device Management* > *Reboot & Reset.* (See Figure 48.)
2. Click *Reboot.*

Hard reboot (use this method only if the device is not responding through the Admin console):

1. Press and hold the power button for two seconds and it should turn off.
2. Press and hold the power button again for two seconds to power on.

5.11.5 Reset to factory defaults

There are two ways to perform a factory reset.

CAUTION:

- This action will reset the Admin and teacher accounts.
- Preloaded content will persist. Teacher-uploaded content (My Uploaded Content) will be erased.

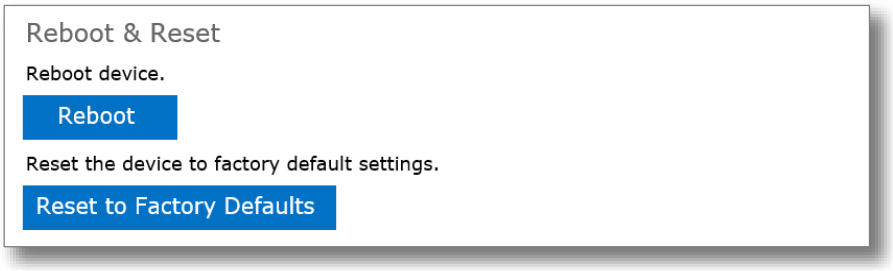
Through Admin console:

1. Go to *Device Management* > *Reboot & Reset.* (See Figure 48.)
2. Click *Reset to Factory Defaults*.

Factory reset button:

1. Locate the pinhole button next to the power button.
2. Press and hold the button for five seconds then release. The system LED will flash rapidly, indicating the factory reset process.

Figure 48: Admin - Device management - Reboot and reset



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6 Troubleshooting and Support

No Internet access through Ethernet connection.

1. Confirm the physical Ethernet WAN connection works.
2. Confirm the network mode is set to Full Internet access in the *Admin console > General Settings*.
3. Confirm the WAN settings are configured properly in the *Admin console > WAN Settings*.

No Internet access through 3G/4G/LTE connection.

1. Confirm the SIM card is activated and there's an adequate data plan.
2. Confirm the SIM card is installed properly (gold pins face down and notch oriented in the right direction).
3. Confirm the network mode is set to Full Internet access in the *Admin console > General Settings*.
4. Confirm 3G/4G/LTE is set to ON and saved in the *Admin console > WAN Settings*.
5. Confirm 3G/4G/LTE LED status is on and is solid blue.

"503 – Service Not Available" message when accessing *http://my.content*.

There are two possible scenarios for the "503 – Service Not Available" message.

1. Content was recently uploaded and is being added to the database.
   a. Wait for a couple of minutes; wait a little longer if it was a large upload.
2. Malformatted or encrypted content was uploaded to the server.
   a. Make sure there aren't any subfolders in the "content_xyz.zip" file.
   b. Reload the content.

Uploaded package (content_xyz.zip) does not show up in Preloaded Content space.

The content package might be malformatted or encrypted.

1. Make sure the content within the package is not in subfolders, but at the top level.
2. Make sure the package is not encrypted.
3. Connect to network share drive at *192.168.88.1**preloaded* and remove the bad package.
4. Properly create the package. See Section 5.11.2 (Manage preloaded content database) for details.
5. Reload.

System unresponsive and admin cannot log on to reboot.

1. Press and hold the power button until the device powers off.
2. Power back on.

Where to get latest firmware?

1. Contact the supplier of the Intel® Education Content Access Point.

Firmware update failed.

1. Confirm the firmware update file's extension is ".tgz". If the browser changed the file's extension during the download process, change it back to ".tgz".

Whom should I contact for additional technical support?

1. Contact the supplier of the Intel® Education Content Access Point.

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7 Technical Specifications

CPU	Intel® Atom™ processor E3815 (1.46 GHz, 512K cache)
Operating system	Ubuntu* 12.04 LTS
Memory	2 GB DDR3L-1066
Storage	8 GB eMMC (built-in) 2.5 in. 500 GB (optional)
Wi-Fi LAN connectivity	IEEE 802.11 b/g/n (2.4 GHz) or IEEE 802.11 a/n/ac (5 GHz)
WAN connectivity	Wired Gigabit Ethernet 3G/4G/LTE mobile broadband
LED	System status 3G/4G/LTE mobile WAN connectivity
Port	Gigabit Ethernet USB 3.0 (USB 2.0 compatible) Micro-SIM slot
Button	Power Factory reset
Battery	Lithium-ion polymer 7.4 V, 4050 mAh (up to 5 hours)
Power supply	AC input: 100 to 240 V DC output: 12 V / 2 A Frequency: 50 to 60 Hz, single phase
Physical specs	Dimensions: 190 × 190 × 30 mm Weight: 607 g
Environmental specs	Operating temperature: 32 to 95°F (0 to 35°C) Relative operating humidity: 20 to 80% (noncondensing) Storage temperature: 14 to 140°F (-10 to 60°C) Relative storage humidity: 10 to 90%
Regulatory	FCC ID: MXF-WRTD303N, complies with part 15 of the FCC rules CE

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