

# CHCH-IoT

The **CHCH-IoT** network is for any device belonging to a College member that cannot do enterprise level security, which is a requirement for the CHCH-Members network and Eduroam Wi-Fi. This can include games consoles, Smart TVs, Alexa devices, Firesticks, Google Home and other Internet of Things (IoT) devices.

To connect an IoT device to the internet while at College, please read the requirements and then follow the instructions on the next page.

## **Requirements:**

- You will need a device that can join the **CHCH-Members** network (this could be your own desktop, mobile or laptop).
- You will need a login for the **CHCH-Members** network. (You can set this here: <https://inquisitor.chch.ox.ac.uk/login/>)
- You will need the **wireless Mac address** of the IoT device you want to connect to the network.
- You must pin protect any devices capable of screen sharing/casting.

## **Please understand:**

- You are responsible for any device you add to the network.
- For shared devices, whoever adds the device to the network is fully responsible for any misuse or malicious activity.
- All traffic is monitored and devices will be blocked if they are acting suspiciously or deemed to be a threat to the College network.
- The IoT network has not been fully implemented due to some technical bugs and therefore functionality may vary for the foreseeable future.
- IoT devices vary in functionality greatly, and although most devices should be able to join the IoT network, there may be some circumstances where it will not be possible, or you do not get the functionality you desire. Please contact IT if you are struggling to make any progress and we will respond when possible.

The CHCH-IoT network incorporates a technology we refer to as the 'User Bubble'. This means that you can register devices under your username and generate a passcode for each device to join the network. You can also share your devices with other users, and enable features like airplay so that your devices can interconnect across College.

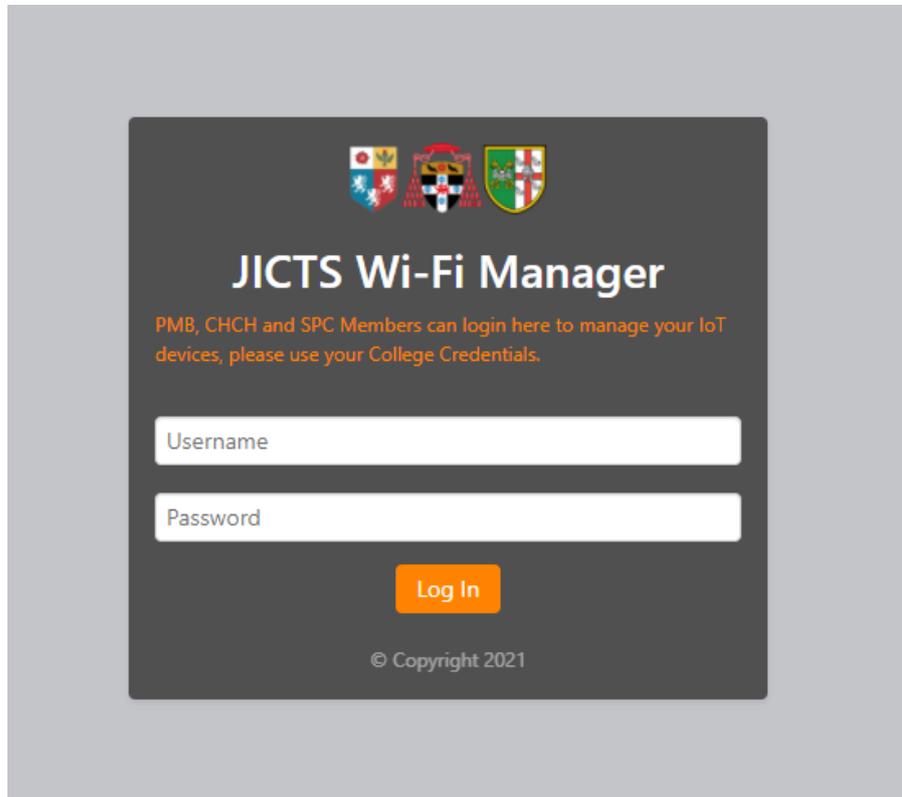
If you at any point suspect that your device is doing something it shouldn't be or has been compromised in any way, please disconnect it from the network, turn off the power and contact IT immediately.

Finally, you must adhere to the University's IT regulations, which apply to any device that is joined to the University network: <https://governance.admin.ox.ac.uk/legislation/it-regulations-1-of-2002>.

## Adding a device to CHCH-IoT

1. On your main device (laptop/desktop/mobile), connect to CHCH-Members and navigate to:

- <https://guest.chch.ox.ac.uk/guest>



2. Enter your College credentials into the Username/Password box. These are the same credentials you use for College Wi-Fi and can be set at <https://inquisitor.chch.ox.ac.uk/login/>

3. Once logged in you can then add and manage IoT devices.



Device Name	MAC Address	Created	Sharing
Sharing test	77-33-EE-AA-11-AA	2020-12-11 16:37	Disabled
stefan's iphone test	C0-A6-00-C5-BF-64	2020-11-27 13:43	Personal

4. Click the 'Create' or 'Create Device' button to add an IoT device.

5. This should bring up the **Register Device** page below.

The screenshot shows the 'Register Device' page in the Aruba ClearPass interface. The page has a header with the Aruba logo and 'ClearPass Device and Guest Management'. A left-hand navigation menu includes 'Devices', 'Create Device', 'Manage Devices', and 'Logout'. The main content area is titled 'Register Device' and contains a form for 'IoT Staff Device Registration'. The form fields are: 'Device Name' (text input), '\* MAC Address' (text input), 'Device 'Bubble'' (checkbox for 'Join the 'Bubble'' and a description), 'Share your device:' (radio buttons for 'Personal' and 'Shared'), 'Shared With:' (text input), and 'Notes:' (text area). A 'Create Device' button is located at the bottom right of the form. A legend indicates that an asterisk (\*) denotes a required field.

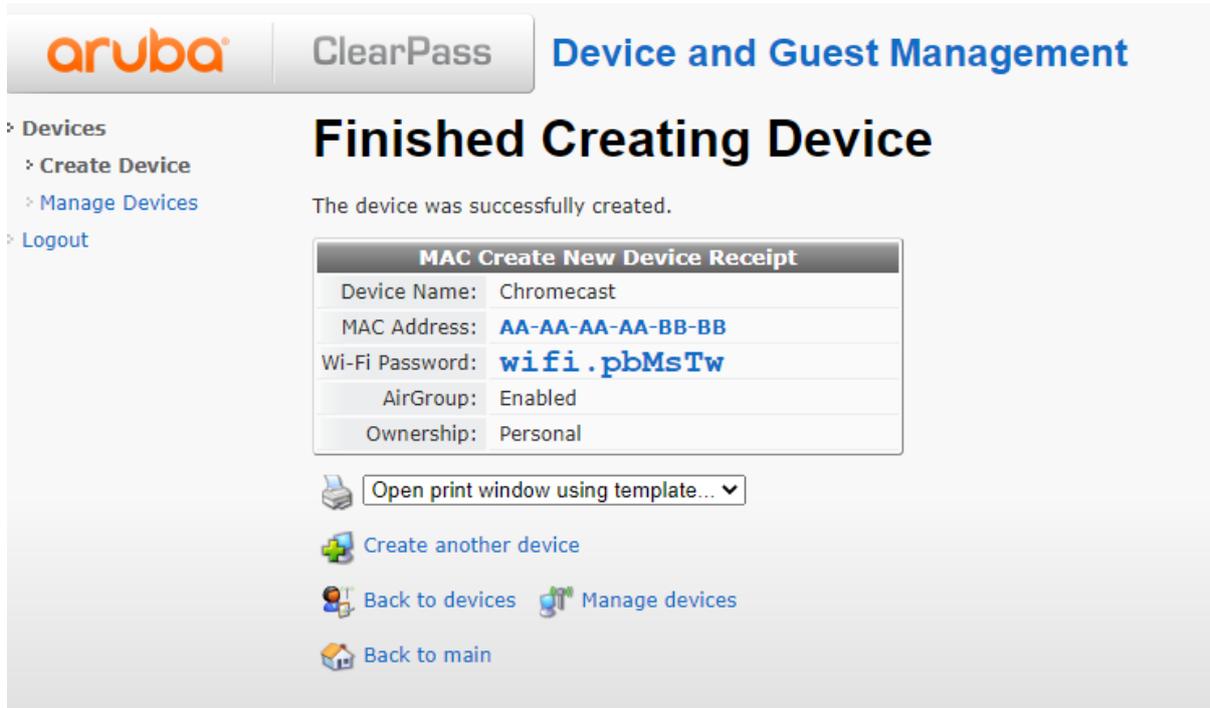
6. Fill out the form and click **Create Device**.

- a. **Device Name:** Please clearly name your IoT device practically so we know what type of device it is.
- b. **Mac Address:** This will be the wireless Mac address of your IoT device; it is usually located on the device itself, or you can use Google to research how to find it.
- c. **Join the Bubble:** This option will allow you to airplay/cast/connect from your devices that are connected to CHCH-Members.
- d. **Share your device:** Please only add devices as personal devices unless you intend to let other users connect to them as well.
- e. **Shared With:** Please enter the SSO of the user you want to share with: this only works when you are sharing with another student, not a member of staff.
- f. **Notes:** Please use this box to add any additional details about why you are adding the device to the network and what it is for.

7.

This screenshot shows the 'IoT Staff Device Registration' form filled out. The 'Device Name' field contains 'Chromecast'. The '\* MAC Address' field contains 'AA:AA:AA:AA:BB:BB'. The 'Device 'Bubble'' field has the 'Join the 'Bubble'' checkbox checked. Under 'Share your device:', the 'Personal' radio button is selected. The 'Shared With' field is empty. The 'Notes' field contains the text 'My Chromecast in the office for testing the IoT network.' The 'Create Device' button is at the bottom right.

8. If you have correctly entered the details you should now be prompted with a **Finished Creating Device** page, which contains the password you need to enter to add your device.



The screenshot shows the Aruba ClearPass Device and Guest Management interface. The main heading is "Finished Creating Device". Below the heading, it states "The device was successfully created." A table titled "MAC Create New Device Receipt" contains the following information:

MAC Create New Device Receipt	
Device Name:	Chromecast
MAC Address:	AA-AA-AA-AA-BB-BB
Wi-Fi Password:	wifi.pbMsTw
AirGroup:	Enabled
Ownership:	Personal

Below the table, there are several links and buttons:

- Open print window using template... (with a printer icon)
- Create another device (with a plus icon)
- Back to devices (with a person icon)
- Manage devices (with a gear icon)
- Back to main (with a house icon)

9. Now on your IoT device, simply connect to CHCH-IoT and enter the passcode that was given to you for your device. Enter the whole code, for example for my Chromecast I would join CHCH-IoT and enter the password **wifi.pbMsTw**

## Notes

- The generated passwords will only work for the Mac address you supplied.
- If you have entered the Mac address incorrectly your device will not be able to join.
- You can manage the devices you have added by clicking the **Manage Devices** link when logged into <https://guest.chch.ox.ac.uk/guest>. This includes editing them and removing them.
- If you are having trouble, please delete the device and then add it again taking care to input the details correctly.
- If you need any further help or things are not working as they are meant to be please email - [it-help@chch.ox.ac.uk](mailto:it-help@chch.ox.ac.uk)