

How to set up eduroam on your device

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Does my organisation participate in eduroam?

Check using the [eduroam site finder map](#) ^[1] .

Why is Wi-Fi setup needed?

eduroam uses 'enterprise network authentication' which is an extremely secure method of connecting to Wi-Fi. This means that you can't connect using a web browser as you would in a cafe or by entering a fixed passcode as you would with home broadband. The 'WPA2-Enterprise'/802.1X network authentication used by eduroam requires specific configuration to ensure the maximum security of your Wi-Fi connection. With correct device setup your authentication onto the network is secure and once connected, your network traffic is encrypted over the wireless connection.

Whilst it is possible to skip proper setup and 'just trust' the network (or disable certification validation), in so doing you expose yourself to possible 'evil twin' exploits in which you might connect to a network masquerading as eduroam. With your connection compromised the attacker would be able to view your network traffic unencrypted. Secure manual configuration of your device is possible, but today we have device setup provisioning tools that make the job straightforward and problem free - always set up your device using e.g. [geteduroam](#) ^[2]. University-owned devices managed by your IT department usually have the Wi-Fi configuration included in the corporate management system and should therefore be correctly set up.

Verification of your identity

Before your devices can connect to the eduroam Wi-Fi (or Ethernet wired service where

available), your identity must be authenticated. This provides you with the assurance that you are connecting securely to a trusted network whether on your own campus or when you roam to any of the many thousands of eduroam hotspots across the world. Once your device is correctly set up you will be able to connect wherever you find the eduroam SSID, seamlessly and securely.

Variety of device types

There's a range of device types that can connect to eduroam (Android, iOS, linux, macOS, Windows) and due to the characteristics of the different operating systems, the configuration of each one is different. This makes the prospect of manually setting up devices daunting since each type of device needs its own set of configuration instructions. Fortunately, the setup provisioning tools available today makes the job of setting up your own laptop, smartphone or tablet simple - see guidance below.

If your organisation provides you with laptop, smartphone or tablet devices, these will usually be managed by the IT team and in which case Wi-Fi setup will be taken care of by them.

Variety of authentication systems

Due to the various different ways that organisations providing eduroam services authenticate their students, staff, researchers and guests there is no single recipe for setting up your device. Some organisations use personal client certificate based authentication, but the majority of organisations in the UK use username and password based systems. Even with username and password there are a number of 'EAP methods' that may be supported. (Based in the way that passwords are stored in your organisation's user database). Therefore it is only your own organisation that can provide definitive instructions.

Your organisation publishes specific guidance

Your organisation may provide information about Wi-Fi services and how to set up devices through one or more of the following:

- through a welcome information pack sent by e-mail
- via help pages in the IT section of the web site or intranet
- through an open access 'onboarding/getstarted' Wi-Fi service portal

The published information may provide instructions on how to manually set up your devices to work with eduroam. Warning!: guidance on setting up your device manually should be treated with caution. Do not follow instructions to 'un-check validate server certificate tick box' or 'click to trust the certificate presented'. If you find such instructions, please drop an e-mail to us directly at 'help@jisc.ac.uk' [3].

Easy setup App: most participating organisations in the UK now make use of the 'CAT' system (Configuration Assistance Tool) - which is an international service operated by the Geant pan-European education and research inter-network organisation. Linux and macOS users can use CAT directly as described below. Android, iOS and Windows users - CAT works in conjunction with the 'geteduroam' App; how to use this is described below, but for in depth information about geteduroam see our page all about the [geteduroam App](#) [4].

Nb. CAT is not the only device setup provisioning tool in the world - your organisation may

use:

- their own bespoke developed system
- a proprietary solution such as Secure W2, Clearpass ES etc

Your organisation's service information web site will advise if the above are utilised and provide instructions on how to use the particular system.

Setup Guidance

Provided that your organisation has subscribed to the CAT system and you know your username and password you can follow the instructions below.

All device types - *if you have previously setup eduroam manually, you should remove the old eduroam profile/'forget' the network. For Android, go to settings > connections > Wi-Fi > Advanced > Manage networks then scroll to and tap 'eduroam' and tap Forget.*

For assured success you will need to download and use the geteduroam (or older devices the CAT) setup provisioning App so you will initially need internet connectivity via your home broadband/4/5G or an open Wi-Fi service such as a setup SSID at your organisation.

MAC address randomisation/privacy (where your device supports this feature) - if you need to register your device MAC address with your organisation, do not enable address randomisation/privacy on your device.

Windows, Android 8 and onwards users, iOS device users use geteduroam (Android 11 onwards must only use geteduroam):

- Using a web browser go to <https://www.geteduroam.app/> [5] and install the **geteduroam App** for Android [6] or iOS [6] from the relevant Appstore or Windows [7] users download the **geteduroam** utility
- Android and iOS users - install the App and open the App; Windows users run the geteduroam.exe from your download folder
- Android/iOS Search for your organisation; Windows [Connect to eduroam] and Select institution (your identity provider/IdP)
- Android/iOS tap '>'; Windows click [Next]
- If presented with multiple profiles - select the one relevant to you (as advised by your home institution)
- Android/iOS tap (Connect); Windows, click [Next]
- Note your organisation's terms of use/information details
- To accept, tap 'Agree'; click on [Next]
- Windows users - click [Install] and [Yes] then on the 'All certificates are installed screen, click [Next] to allow installation of your organisation's certification authority certificates
- (Android/iOS users - geteduroam manages certification authority certificates within App)
- Android/iOS users - 'Login Required' dialogue box:
 - Enter your username and password credentials (as provided by your home institution)
 - Tap 'Log In'
 - Dialogue will appear: "geteduroam" wants to Add a Wi-Fi Hotspot Network? Tap

- 'Allow'
- Dialogue will appear: "geteduroam" wants to Join Wi-Fi Network "eduroam"? Tap 'Join'
- If in range you will be connected. If not in range you will get message Unable to join the network "eduroam" - tap [OK] and message 'Configured but not connected' is displayed at bottom of screen
- You will connect ok when you are in range of eduroam - if not contact your own organisation's IT support.
- Windows users - 'Login' panel:
 - 'Enter your username and password' - enter your credentials (as provided by your home institution)
 - Click [Connect]
 - Message will appear: 'Everything is configured!'
 - If your device is within range of an eduroam Wi-Fi service you will be connected.
 - You will connect ok when you are in range of eduroam - if not contact your own organisation's IT support.

Android pre-version 8 users use the 'classic CAT App' (the App can also be used on Windows(*) and Android 8 - 10, but not with version 11 onwards):

- Open and run a web browser and install the classic eduroam CAT App from the Google Play or Amazon Appstore [eduroam CAT - Apps on Google Play](#) [8] or <https://www.amazon.com/dp/B01EACCX0S/> [9] (CAT App is not needed for Windows devices!)
- (Alternatively you can go to the CAT web site (*) <https://cat.eduroam.org/> [10] and click on the [Click here to download your eduroam® installer] - then search/select and tap on your home organisation - if you see 'Select the user group', from the drop down menu select the relevant profile - tap [Done] - tap the large blue [eduroam] button - a grey 'Before you proceed' information box will open advising that you must install the CAT App first. (If you have not already installed the App, do so now and then return to your current CAT website page). Tap the [Continue] button. Your eduroam profile will now download to your device. A white dialogue box will open - tap 'Open with eduroamCAT'. The CAT App will now open on the Configuration File Summary page - tap [Install] and proceed as below.)
- The CAT App has a simple menu bar, 'Install', 'Profiles', 'Status'. If you have previously used the App and already have an installed profile you must first remove it. Tap on 'Profiles' and tap [Remove Profile], tap [Yes]. The profile will be removed. Tap 'Install' to ready the App for the next step.
- At this stage there is no profile installed via the App so you must now install a profile for your organisation. On the menu bar tap 'Profiles'.
- The Nearby Configs screen will appear. If your organisation is listed, tap to select it. If your organisation is not listed or the Nearby Configs screen does not load up, tap the [Manual Search] button at the bottom of the screen. Using the Manual Search panel enter your organisation name/Search and select your organisation.
- If presented with multiple profiles - choose the one relevant to you (as advised by your home institution). The Configuration File Summary will be displayed. Tap the [Install] button.
- A dialogue screen, 'Install Profile' will appear asking if you wish to proceed, tap [Yes]
- You will be prompted to enter your username and password.
- Tap on the [Install] button.

- Upon successful installation 'Profile installed' will appear on green at the bottom of the screen
- If you are within range of an eduroam Wi-Fi service your device will be connected.

(*) Option - **Windows** setup via the CAT website:

- Open a web browser and go to the CAT web site (**) <https://cat.eduroam.org/> [10]
- Click on the [Click here to download your eduroam® installer]
- Select your institution using the discovery tool
- If presented with multiple profiles - choose the one relevant to you (as advised by your home institution)
- Click on the large [eduroam] button - the installer.exe will download
- Go to your downloads folder and run the installer. A welcome screen will appear displaying profile and helpdesk information.
- Click on the [Next >] button. Note the organisation confirmation screen and click [OK]
- Enter your username and password. Click [Install].
- After completion of the installation the 'Installation complete' screen will appear. Click [Finish]
- If you are within range of an eduroam Wi-Fi service your device will be connected

macOS users use the CAT web site:

- Open a web browser (Safari) and go to the CAT web site (**) <https://cat.eduroam.org/> [10]
- Click on the [Click here to download your eduroam® installer]
- Select your institution using the discovery tool
- If presented with multiple profiles - choose the one relevant to you (as advised by your home institution)
- Click on the large [eduroam] button - the mobile_config file will download and
- The installer will run; you will be asked for confirmation to install the profile, to accept server certificate authorities and to enter your username and password; you may be asked to do this a number of times if multiple SSIDs/passpoint networks are to be set up.
- If you are within range of an eduroam Wi-Fi service your device will be connected.

linux users use the CAT web site:

- Open a web browser and go to the CAT web site (**) <https://cat.eduroam.org/> [10]
- Click on the [Click here to download your eduroam® installer]
- Select your institution using the discovery tool
- If presented with multiple profiles - choose the one relevant to you (as advised by your home institution)
- Click on the large [eduroam] button - the python script file will download and
- The installer will run; it will try to configure eduroam® under NetworkManager - if this is either not appropriate for your system or your version of NetworkManager is too old, a wpa_supplicant config file will be created instead
- The installer will create cat_installer sub-directory in your config directory (possibly the .config in your home directory) and will copy your server certificates there
- You will be requested to enter your account credentials during the installation
- If you are within range of an eduroam Wi-Fi service your device will be connected.

(**) A tailored link which may be provided by your home institution to take you directly to the

CAT download page for your organisation. Check on your organisation's eduroam service information web page/intranet/joining instructions for details.

Your device is now ***correctly*** and ***securely*** set up.

Dos and don'ts

- Never reveal your username and password to anyone else
- If you have set up your device using geteduroam App, do not uninstall geteduroam until such time as you no longer wish to connect to eduroam (removing the App will remove the eduroam network settings)
- When you leave your organisation at the end of your course of research or if you move to a different organisation that has eduroam, remove your eduroam profile/forget the network network, uninstall geteduroam
- Do understand the terms and conditions ^[11] of using eduroam and connecting to eduroam networks

Can all Wi-Fi enabled devices be connected using eduroam?

Only devices supporting the 802.1X authentication standard/802.1X Enterprise can connect using eduroam. The following devices are not supported:

- Microsoft X-Box
- Sony Playstation
- Nintendo DS
- Nintendo Switch
- Alexa
- Google Home
- Goolgle Chromecast
- Apple Airplay
- Nintendo Wii
- Sony PSP
- Wireless Printers

To connect these devices your organisation **may** provide a non-802.1X devices Wi-Fi SSID and will provide instructions on how to register and connect your devices.

Fundamentals underpinning the eduroam service

User identity verification and security - In order to be connected to university and college networks your identity must first be verified. This is for your security online since only known members or guests of UK eduroam and research will ever share the network service and also this enables your institution to comply with regulatory requirements - the institution network and also the Janet network connecting all UK institutions together are private networks.

Your credentials - your identity in the majority of cases will be authenticated with your username and your password. Your username is similar to an e-mail address and must always be used in its entirety. The username comprises your userID and your realm. The realm identifies the organisation you are associated with and is used to send the

authentication request from your device when you connect to a remote eduroam service.

When entering your username, accuracy is essential. A single character error or even a 'space' at the end of the username can be sufficient to cause your authentication request to fail. Your username is in the format userID@realm ^[12] e.g. fredda.smith@camford.ac.uk ^[13]

A number of institutions have based their user authentication systems on personal certificates. If your organisation uses personal certificates, they will have a mechanism to generate and distribute these to you - information about this will be published on the organisation IT web pages or will have been sent to you at the time you joined the organisation. The user certificate contains username information and in a similar way to username and password based systems, the realm component is used to forward your device's authentication request back to your own organisation's authentication system.

SmartPhone and Tablet users! - be aware that predictive text fill can insert a space character at the end of your username. If this happens this will result in authentication failure. Check that your device tap-keyboard has not added an extraneous space.

What if you have problems connecting - it is a limitation of the underlying technology standards on which eduroam is based that the reason why an attempt to connect to an eduroam service fails cannot be sent to and displayed on your device - alas, we did not write the standards!

Your organisation's IT helpdesk should be your first port of call in seeking assistance. Even if you have been able to use your device at other eduroam venues you have roamed to, you should first contact your own organisation to check that your network access account is still valid and has not become locked. If there are no other reasons for difficulties connecting to eduroam, it is likely that there is a local issue and you should contact the Visited organisation's IT support service.

What to do when you leave your organisation - your network access account for your organisation will be disabled at the end of your course when you leave your organisation. It will only remain active if you have an ongoing research/educational association with the organisation. You should therefore remove the eduroam profile or credentials or uninstall the geteduroam App from your devices.

Manually set up devices - go to settings > connections > Wi-Fi > Advanced > Manage networks then scroll to and tap 'eduroam' and tap Forget.

geteduroam App configured devices - run geteduroam, go to Settings, scroll down to 'Uninstall application' and tap on [Yes]

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See also the [eduroam user guide](#) [14].

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If you find any errors or omissions, wish to add content or have any comments on this page, please e-mail help@jisc.ac.uk [3]

Source URL: <https://community.jisc.ac.uk/library/janet-services-documentation/how-set-your-machine>

Links

[1] <https://map.eduroam.uk/eduroammap.html>

[2] <https://www.geteduroam.app/>

[3] <mailto:help@jisc.ac.uk>

[4] <https://community.jisc.ac.uk/library/network-and-technology-service-docs/geteduroam-app>

[5]

<https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.geteduroam.app%2F&data=05%7C>

[6] <https://play.google.com/store/apps/details?id=app.eduroam.geteduroam>

[7] https://dl.eduroam.app/windows/x86_64/geteduroam.exe

[8] <https://play.google.com/store/apps/details?id=uk.ac.swansea.eduroamcat>

[9] <https://www.amazon.com/dp/B01EACCX0S/>

[10]

<https://eur01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fcat.eduroam.org%2F&data=05%7C01%7>

[11] <https://community.jisc.ac.uk/library/janet-services-documentation/eduroam-conditions-use>

[12] <mailto:userID@realm>

[13] <mailto:fredda.smith@camford.ac.uk>

[14] <https://community.jisc.ac.uk/library/janet-services-documentation/eduroam-user-guide>