

# User guide to Duo two-factor authentication

*Last updated: 14 November 2022*

This manual aims to walk you through the most common tasks that involve [Duo two-factor authentication](#).

If you don't find a section below that helps, please email [itsupport@york.ac.uk](mailto:itsupport@york.ac.uk) so that we can improve this document for future users.

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# 1 -- About Duo two-factor authentication

## 1.1) Why has the University implemented two-factor authentication (2FA)?

Without two-factor authentication (2FA), anyone with a valid username and password can log in to many University services - even if they've got hold of that information maliciously (for example via a phishing attack). The University has already experienced this type of attack, so this simple additional step will have a big impact on everyone's digital safety.

At York the 2FA technology we use is provided by a company called Duo. The second factors we currently use are:

- The Duo Mobile app (installed on an iOS or Android smartphone or tablet)
- Passcodes received via a text message
- A hardware token

This technology is exactly the same as used by all major banks for internet banking logins and transactions. Almost every university in the UK has already implemented some form of 2FA (also known as multi-factor authentication or 'MFA') or is about to do so.

## 1.2) When and how do I use Duo?

The University has begun protecting systems that permit access to campus resources from the internet and also systems that contain sensitive data. More systems will be protected throughout 2021 and beyond. The protection only occurs when you log in. The protected systems will ask for your normal username/password and then request a Duo authentication.

The Duo authentication process will require you to do one of two actions:

1. **Use the Duo Mobile app** by selecting 'PUSH' notification on the system you are logging onto. The app on your mobile phone or tablet will ask you if the login attempt is genuine. If you select 'Approve' your login process completes.
2. **Type a passcode into the login screen.** This passcode could come from:
  - a) the Duo Mobile app
  - b) a text message
  - c) a hard token
  - d) a bypass code issued by IT Support.

[This short video shows someone using Duo](#) to log in to their company's protected system.

### **1.3) I connect and work on a desktop or laptop, do I install Duo on these devices?**

You don't install the Duo app on any laptop or desktop. In most cases the device you use for Duo will be different to the device you work on day to day, for example your mobile phone. If you normally work on a laptop or desktop you will continue to do so.

For example, if you use a Windows laptop to log in to the VPN you will use the software to connect, type your username and password, and then use your mobile phone to perform Duo authentication. Once you are logged on the phone is set aside and you continue to work on the laptop.

[This short video shows someone using Duo](#) to log in to their company's protected system.

## 2 -- Registering devices for Duo

### 2.1) How do I download the Duo Mobile app?

You should only download the app from the links provided which link to an app with this logo:



Only fairly recent versions of the Android and iOS will work, so make sure your device is up-to-date.

- [Duo Mobile for Android](#)
- [Duo Mobile for iOS](#)

If the Duo Mobile app is not available in your device's app store, then this may be because your device's operating system is too old. Check to see if an update is available for your device.

- [Check and update your Android version - Android Help](#)
- [Update your iPhone, iPad or iPod touch – Apple Support](#)

Alternatively use the SMS text message option instead.

- [2.4\) How do I set up \(enrol\) my phone to use the SMS text message method?](#)
- [3.2\) How do I log in to services with SMS text messages?](#)

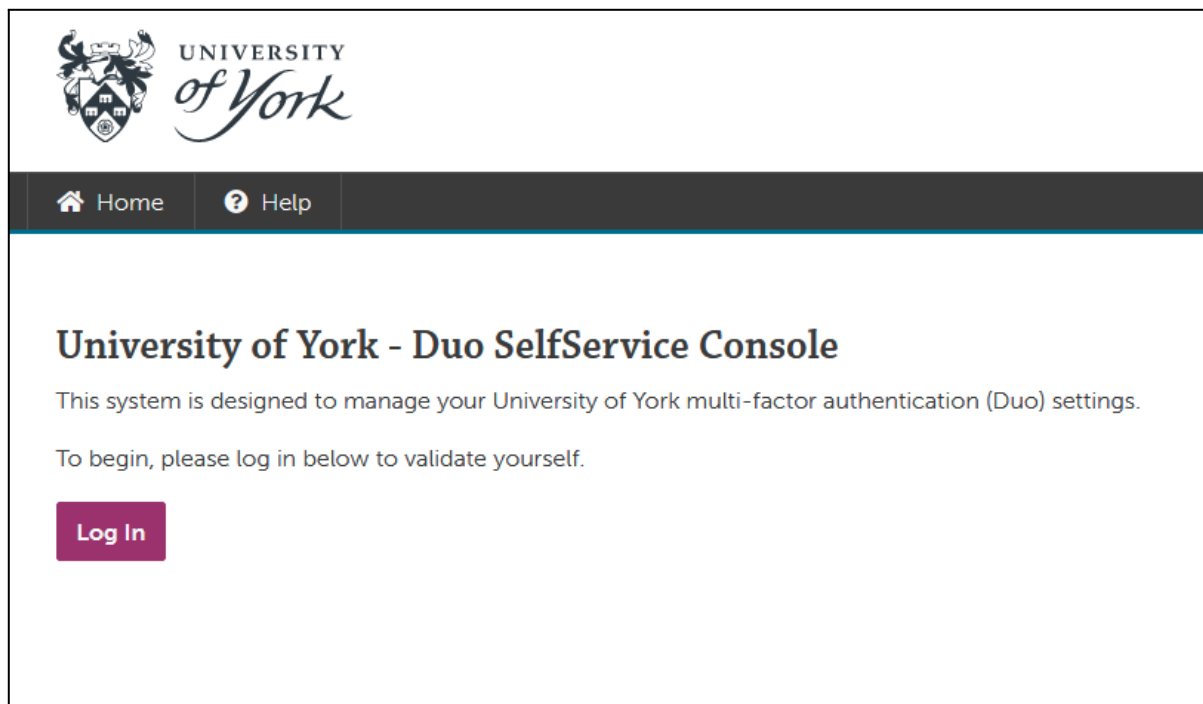
Some Huawei devices can't access the Google Play Store to download the Duo Mobile app so will need to use the SMS text message option.

## 2.2) How do I log in to the Duo SelfService Console?

The Duo SelfService Console is where you can add or remove devices from your Duo account.

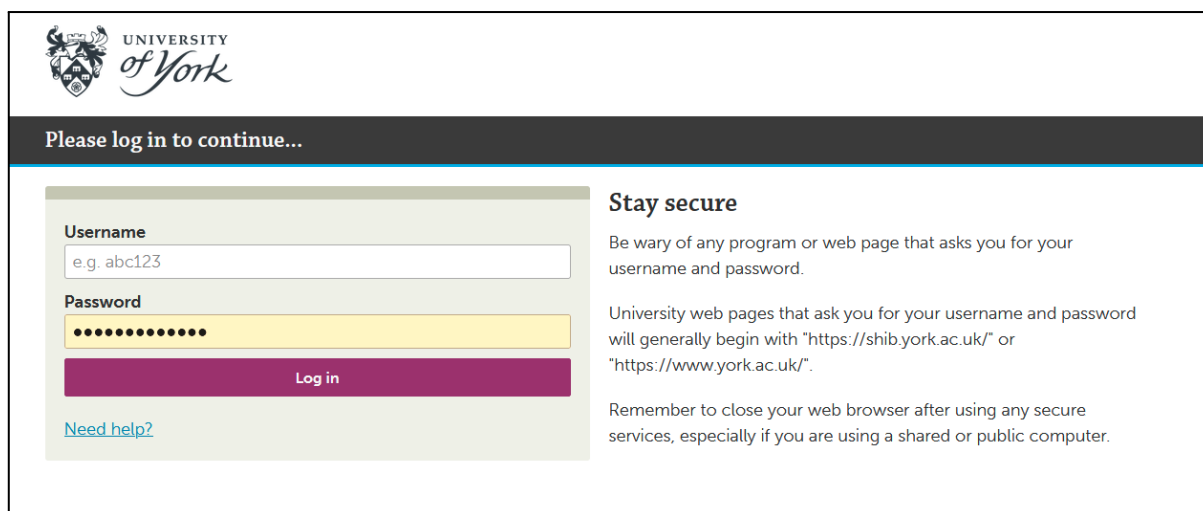
To log in to the Duo SelfService Console:

1. Go to <https://duo.york.ac.uk/> to your web browser



The screenshot shows the top of the Duo SelfService Console. At the top left is the University of York crest and logo. Below it is a navigation bar with 'Home' and 'Help' links. The main heading is 'University of York - Duo SelfService Console'. Below the heading is a paragraph: 'This system is designed to manage your University of York multi-factor authentication (Duo) settings. To begin, please log in below to validate yourself.' At the bottom of this section is a purple 'Log In' button.

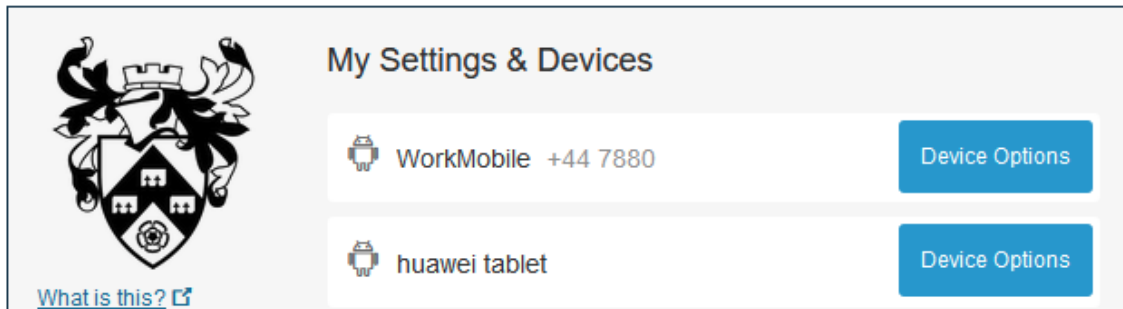
2. Log in with your normal University username and password



The screenshot shows the login form. At the top left is the University of York crest and logo. Below it is a dark bar with the text 'Please log in to continue...'. The form has two input fields: 'Username' with the placeholder 'e.g. abc123' and 'Password' with a masked password '.....'. Below the password field is a purple 'Log in' button. To the right of the form is a 'Stay secure' section with the following text: 'Be wary of any program or web page that asks you for your username and password. University web pages that ask you for your username and password will generally begin with "https://shib.york.ac.uk/" or "https://www.york.ac.uk/". Remember to close your web browser after using any secure services, especially if you are using a shared or public computer.' At the bottom left of the form is a blue link 'Need help?'.

3. If you already have a Duo registered device (regardless if it is working/available to you) you will need to perform a Duo authentication.
  - a. If you have changed your mobile phone but still have the same phone number see: [4.1\) I changed my mobile phone but kept the same phone number. How do I use the Duo Mobile app again?](#)
  - b. If you can't get past this stage then phone [IT Support](#).
4. Once you have successfully logged in:

- a. If you already have a device registered for Duo, you will be taken to a “My Settings & Devices” screen, containing information about the devices you currently have registered on your account. This screen is also where you can adjust your settings such as deleting phones that you no longer have or re-activating a new installation of the Duo Mobile app.
- b. If you have no devices registered with Duo you will be asked to enrol your first device.
  - [2.3\) How do I register \(enrol\) a device to use the Duo Mobile app?](#)
  - [2.4\) How do I register \(enrol\) my phone to use the SMS text message method?](#)

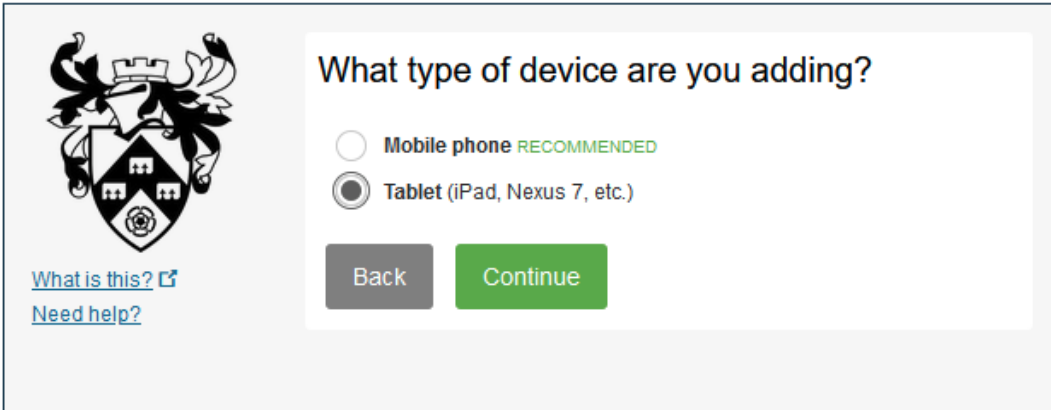




## 2.3) How do I register (enrol) a device to use the Duo Mobile app?

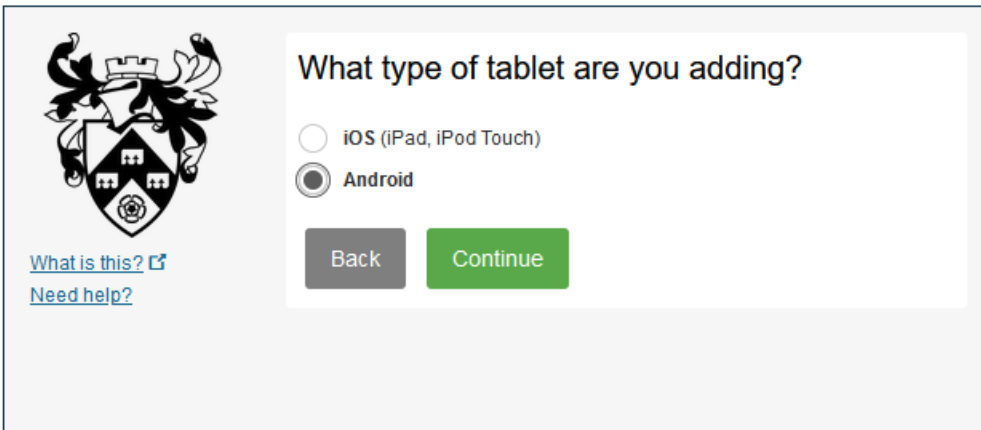
To set up (or 'enrol') a smartphone or tablet to use the Duo Mobile app:

1. Download the Duo Mobile app for your Android or Apple device (phone, tablet or watch).
  - [2.1\) How do I download the Duo Mobile app?](#)
2. Log in to the [Duo SelfService Console](#).
  - [2.2\) How do I log in to the Duo SelfService Console?](#)
3. Once you have successfully logged in:
  - a. If you already have a device registered for Duo, select **Add another device**
  - b. If you have no devices registered with Duo you will be asked to enrol your first device
4. We recommend setting up both Duo Mobile app functionality and SMS text message functionality. To do this, select **Mobile phone** under "What type of device are you adding", click Continue and then enter your phone number on the following screen.
  - This will make it easier for you to set up Duo Mobile on a new device if you change or lose your phone.
  - Alternatively, if you don't want to register your phone number (and therefore not use the SMS method) select **Tablet** (even if the device is a phone) and click Continue.



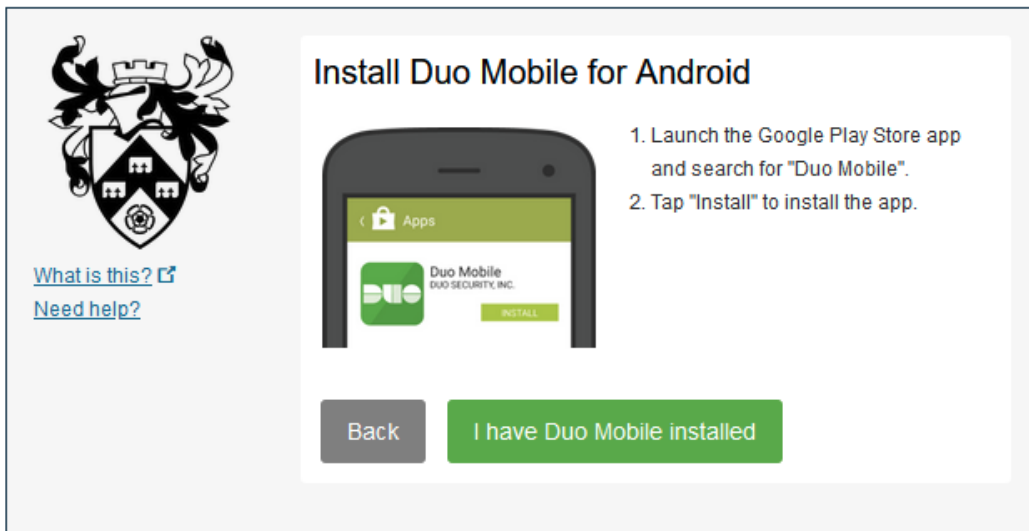
The screenshot shows the Duo SelfService Console interface. On the left is the University of Exeter crest. Below it are links for "What is this?" and "Need help?". The main content area is titled "What type of device are you adding?". It features two radio button options: "Mobile phone RECOMMENDED" (which is selected) and "Tablet (iPad, Nexus 7, etc.)". At the bottom of the form are "Back" and "Continue" buttons.

5. Choose the **type of device (iOS or Android)** and click Continue.

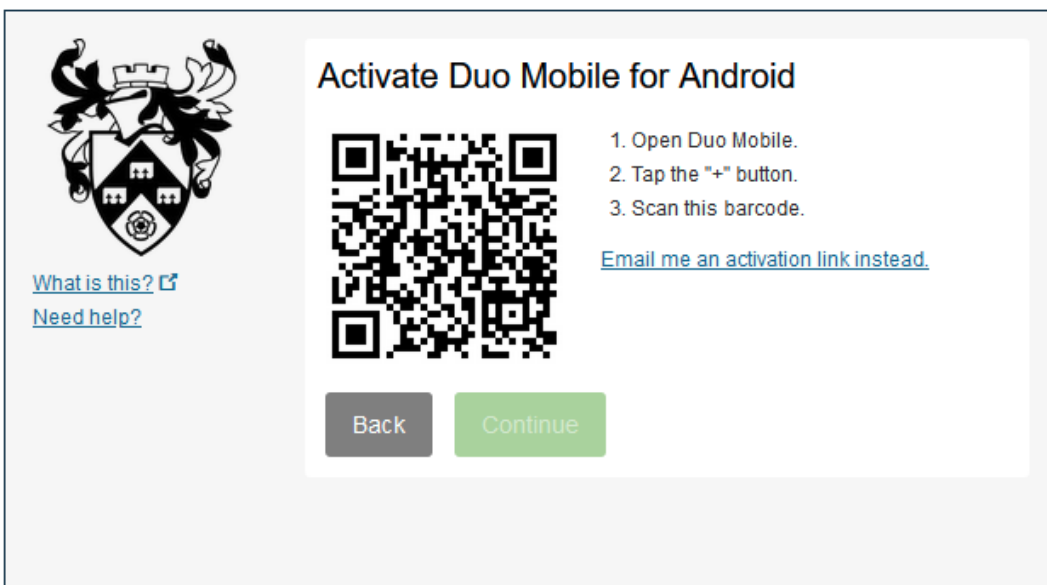


The screenshot shows the Duo SelfService Console interface for selecting a tablet. On the left is the University of Exeter crest. Below it are links for "What is this?" and "Need help?". The main content area is titled "What type of tablet are you adding?". It features two radio button options: "iOS (iPad, iPod Touch)" and "Android" (which is selected). At the bottom of the form are "Back" and "Continue" buttons.

6. Click **I have Duo Mobile installed**.



7. You will now be presented with a barcode. On your mobile phone or tablet, open the Duo Mobile app and click the + button (in the menu at the top). Point your device's camera at the barcode so your device can scan it. Once your device has scanned the barcode, click Continue.
- If for any reason you can't scan the barcode, alternatively:
    - a. Choose "Email me an activation link instead" to be sent a special link you can click to activate the Duo Mobile app.
    - b. Choose "Take me to Duo Mobile instead" - this will give you an option to open the Duo Mobile app and complete the activation.



The Duo Mobile app on your device is now activated. We recommend you test it to make sure that it is working.

- [2.6\) How do I test my registered device?](#)

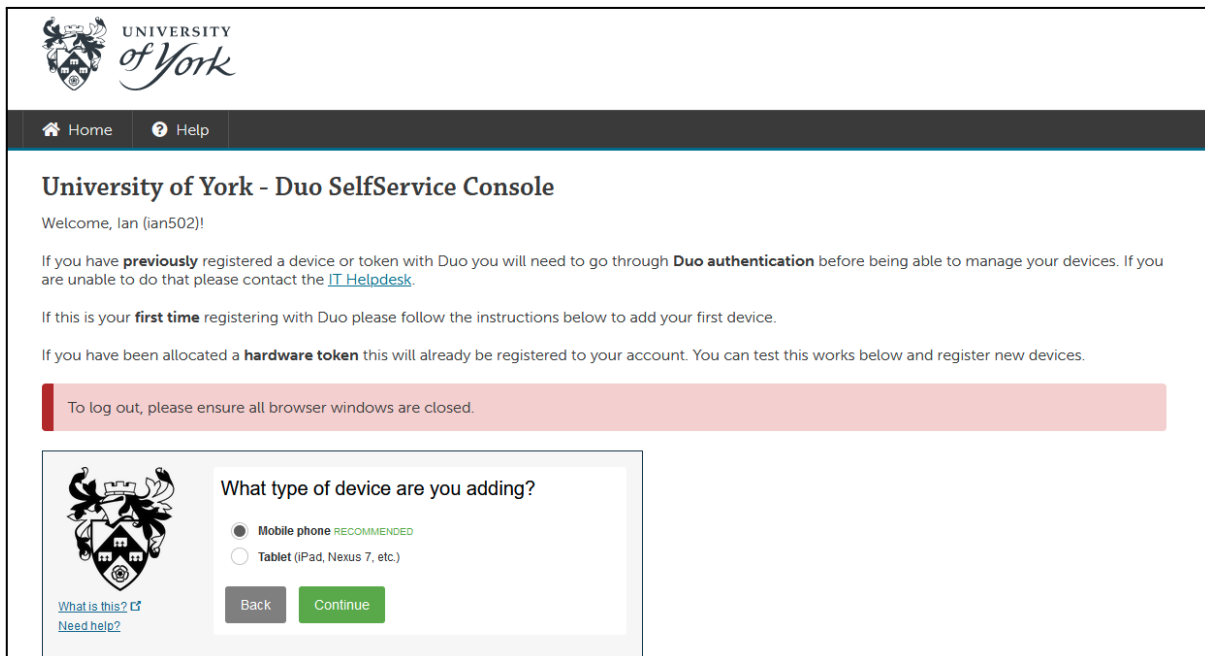
You should now be able to use it to log in to Duo-protected services.

- [3.1\) How do I log in to services using the Duo Mobile app?](#)

## 2.4) How do I register (enrol) my phone to use the SMS text message method?

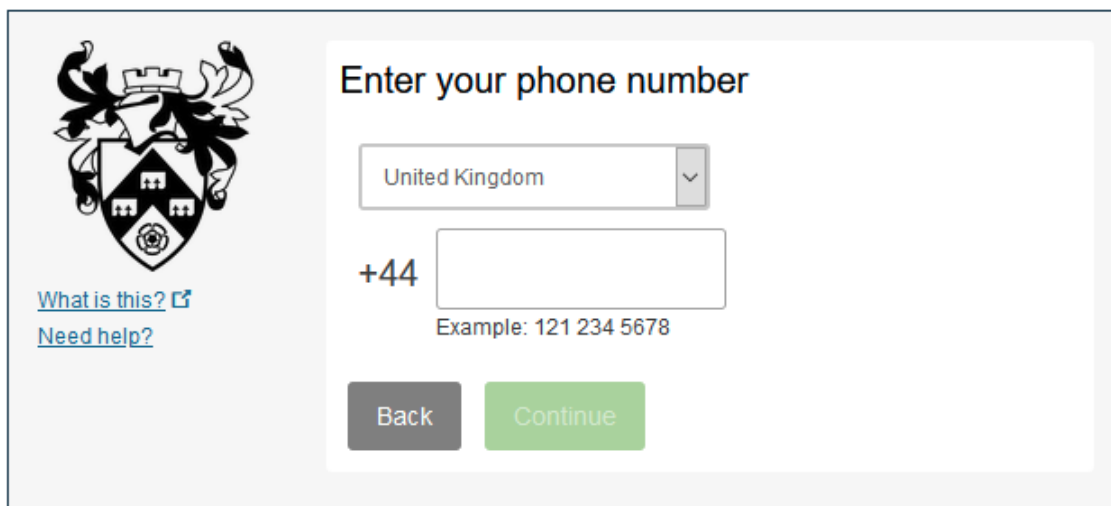
If you don't want to or can't install the Duo Mobile app you can receive Duo authentication codes by SMS text message.

1. Log in to the [Duo SelfService Console](#).
  - [2.2\) How do I log in to the Duo SelfService Console?](#)
2. Once you have successfully logged in:
  - a. If you already have a device registered for Duo, select **Add another device**
  - b. If you have no devices registered with Duo you will be asked to enrol your first device.
3. Under "What type of device are you adding?", select **Mobile phone** and click Continue.



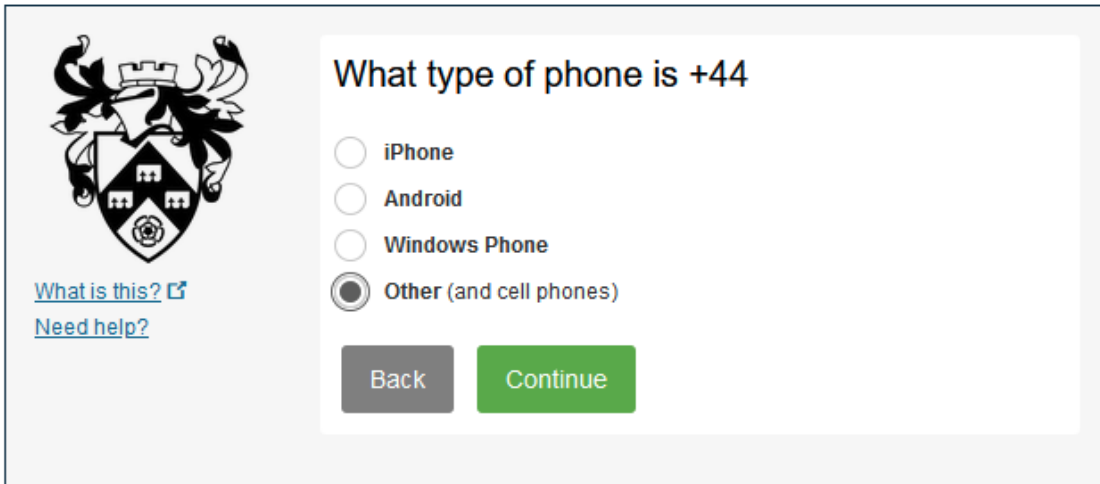
The screenshot shows the University of York Duo SelfService Console interface. At the top, there is the University of York logo and navigation links for Home and Help. The main heading is "University of York - Duo SelfService Console". Below this, there is a welcome message for user "ian502". A red banner at the bottom of the main content area contains the text: "To log out, please ensure all browser windows are closed." The primary form area is titled "What type of device are you adding?". It features two radio button options: "Mobile phone RECOMMENDED" (which is selected) and "Tablet (iPad, Nexus 7, etc.)". There are "Back" and "Continue" buttons at the bottom of the form. On the left side of the form, there is a small University of York crest logo and two links: "What is this?" and "Need help?".

4. Enter **your phone number** and click Continue.



The screenshot shows the "Enter your phone number" form. On the left, there is a large University of York crest logo and two links: "What is this?" and "Need help?". The form itself has a title "Enter your phone number". It includes a dropdown menu for the country, currently set to "United Kingdom". Below this is a text input field for the phone number, with a "+44" prefix indicator to its left. An example number "121 234 5678" is shown below the input field. At the bottom of the form, there are "Back" and "Continue" buttons.

5. Under “What type of phone is...?”, select **Other** and click Continue.



What type of phone is +44

iPhone

Android

Windows Phone

Other (and cell phones)

Back Continue

[What is this? ⓘ](#)  
[Need help?](#)

The process is now complete and you will be presented with the **My Settings & Devices** screen.

You should now be able to log in to Duo-protected services using codes sent to you by SMS text message. For step-by-step instructions see:

- [3.2\) How do I log in to services using SMS text messages?](#)

## 2.5) How do I get a hard token/security key?

If you are unable to use your work or personal mobile device to authenticate to protected systems, you can request a hard token/security. We have two types of token:

**Duo hard token:** This small keyring displays a number on the LCD display which is typed into the passcode box during login.

- A Duo hard token is only compatible with Duo 2FA.



**Security key:** This is a small USB device that you connect to your computer. You tap the gold contact during the login process to have the key automatically enter a passcode to authenticate. A new passcode is generated each time you touch the key.

- Unlike the Duo hard token, the security keys also work with Google 2FA. As Google 2FA is only mandatory for staff, these security keys are not available to students.



These hard tokens are available to request if the Duo Mobile app or SMS text message isn't an option for you. To request a hard token, please email [itsupport@york.ac.uk](mailto:itsupport@york.ac.uk).

Once you have a hard token, you'll be able to use it to log in to Duo-protected services:

- [3.3\) How do I log in to services using a hard token?](#)

## 2.6) How do I test my registered device?

You can test that your Duo device is working at any time by logging into any protected system. If you perform a Duo authentication and get to the resource you expect everything is working.

You can also perform this test on the [Duo SelfService Console](#).

- [2.2\) How do I log in to the Duo SelfService Console?](#)

This also requires you to authenticate with Duo. If you are successful it will display the “My Settings & Devices” page. The test is complete and you can close the browser.

## 2.7) Can I register more than one device (or phone number) with Duo?

Yes. You can have one or several devices (or phone numbers) on your Duo account.

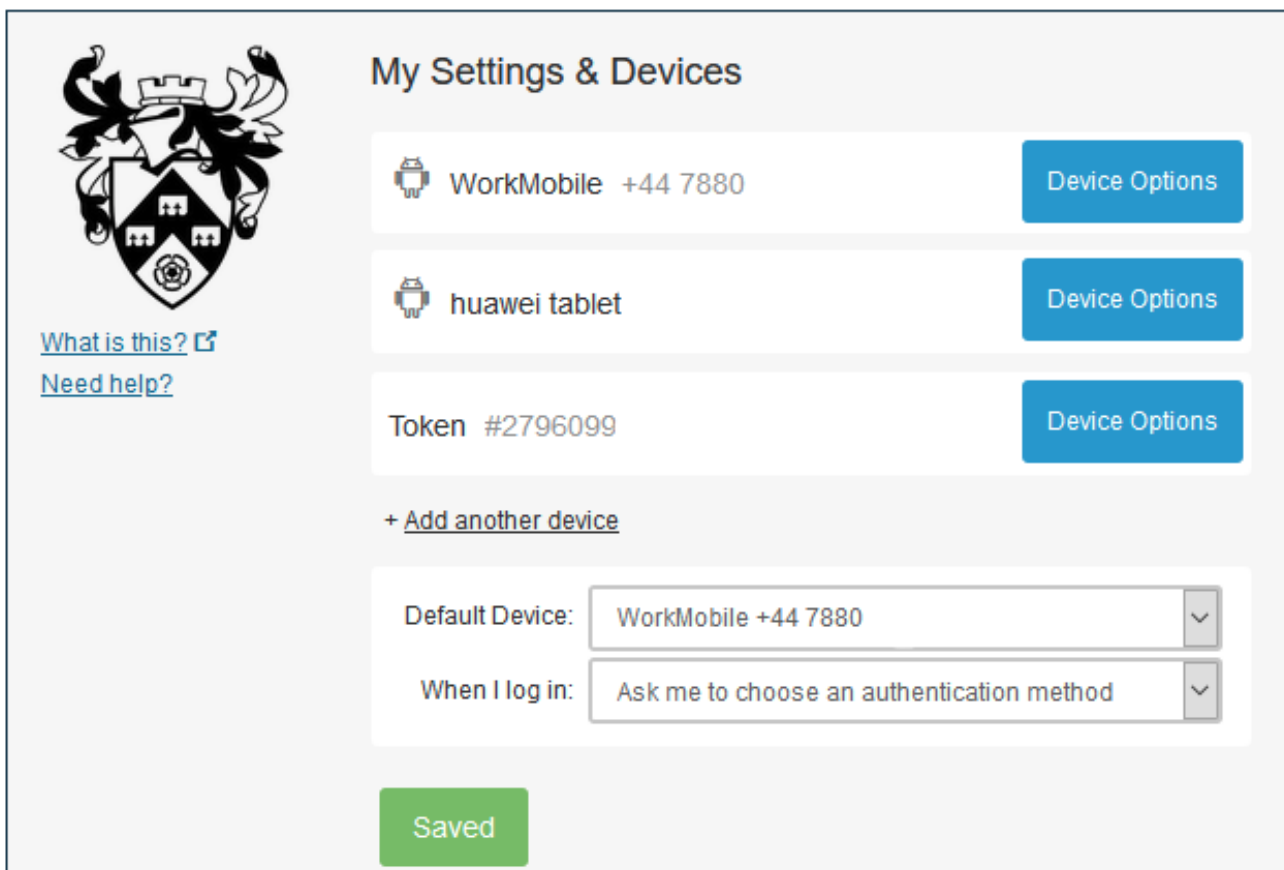
You might want to use a mobile phone most of the time, but also have the option of using an Android tablet/iPad. Or you might use more than one phone number (for example a UK and international phone number).


To add additional devices:

1. Log in to the [Duo SelfService Console](#).
  - [2.2\) How do I log in to the Duo SelfService Console?](#)
2. Click + **Add another device**



The screenshot below shows the My Settings & Devices screen with multiple devices set up.

- You should set your **Default Device** to the device you tend to carry with you most often. If you use [some systems](#) where you type the word **push** (for example Virtual Desktop Service, command line systems) then this device receives that push notification.
- The **When I log in** setting can be set to “Ask me to choose an authentication method”, or “Automatically send this device a Duo push” so that push notifications are sent automatically as you are logging in to make the login process quicker.





### My Settings & Devices

-  WorkMobile +44 7880 [Device Options](#)
-  huawei tablet [Device Options](#)
- Token #2796099 [Device Options](#)

[+ Add another device](#)

Default Device:

When I log in:

[Saved](#)

[What is this?](#) [Need help?](#)

## 3 -- Using Duo

### 3.1) How do I log in to services using the Duo Mobile app?

There are two ways you can use the Duo Mobile app to log in to protected systems:

- **Push notifications** - Approving a notification sent to the Duo Mobile app on your device.
- **Passcodes** - Entering a passcode generated by the Duo Mobile app on the login screen

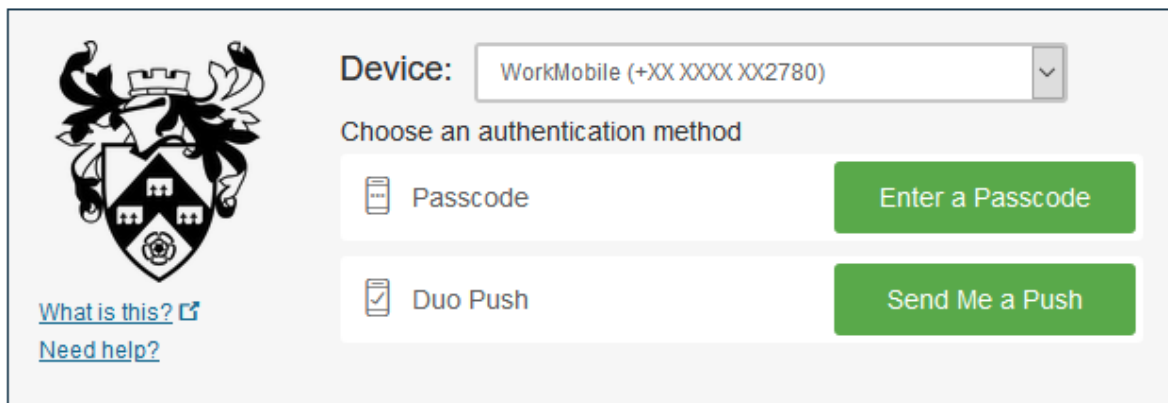
If you have not set up the Duo Mobile app on your device then you will need to do this first:

- [2.3\) How do I register \(enrol\) a device to use the Duo Mobile app?](#)

### Web-based systems and VPN

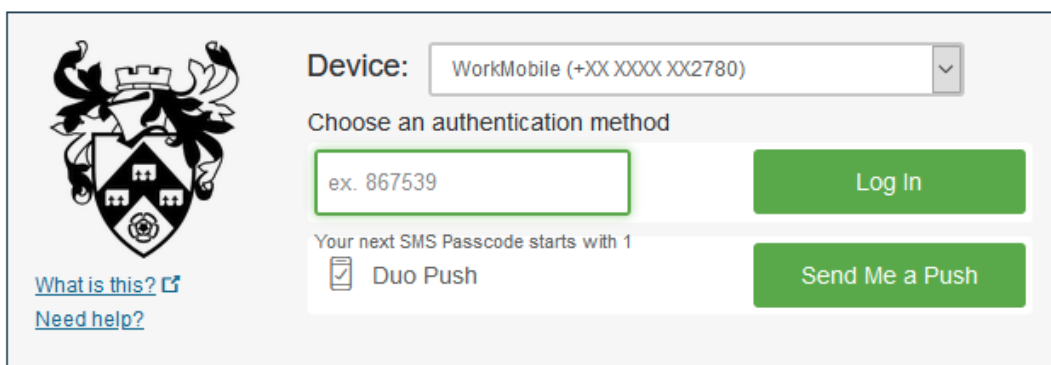
If you are logging onto web systems that have the full Duo interface such as the [VPN](#) and the [Duo SelfService Console](#):

1. Enter your University username and password. You will be taken to a “Choose an authentication method” screen.



The screenshot shows the Duo authentication interface. On the left is the University of York crest. Below it are links for "What is this?" and "Need help?". On the right, there is a "Device:" dropdown menu set to "WorkMobile (+XX XXXX XX2780)". Below that is the heading "Choose an authentication method". There are two options: "Passcode" with a button "Enter a Passcode" and "Duo Push" with a button "Send Me a Push".

2. You can choose either authentication method:
  - a. If you choose “Enter a passcode”:
    - i. Open the Duo Mobile app and tap **University of York**. You will see a 6-digit passcode.
    - ii. Enter this passcode and click **Log In**.



The screenshot shows the Duo authentication interface after selecting the "Passcode" method. The "Device:" dropdown is still set to "WorkMobile (+XX XXXX XX2780)". The "Choose an authentication method" heading is present. A text input field contains "ex. 867539". To its right is a green "Log In" button. Below the input field, it says "Your next SMS Passcode starts with 1". There are two options: "Duo Push" (checked) with a button "Send Me a Push".



- b. If you choose “Send Me a Push”:
    - i. You should receive a notification from the Duo Mobile app.
      - If you don’t receive a push notification, see: [5.3\) I select “Send Me a Push” when logging in to a system but nothing happens?](#)
      - The push notification will timeout after 60 seconds. If this happens - click “Send Me a Push” again to be sent a new notification.
    - ii. Open this notification and tap “Approve”.
3. You should now be logged in.
    - a. [This video shows the process of logging in using push notifications.](#) Note that the user is accessing a system on his laptop. The phone is only used as part of the login process.

## Other systems

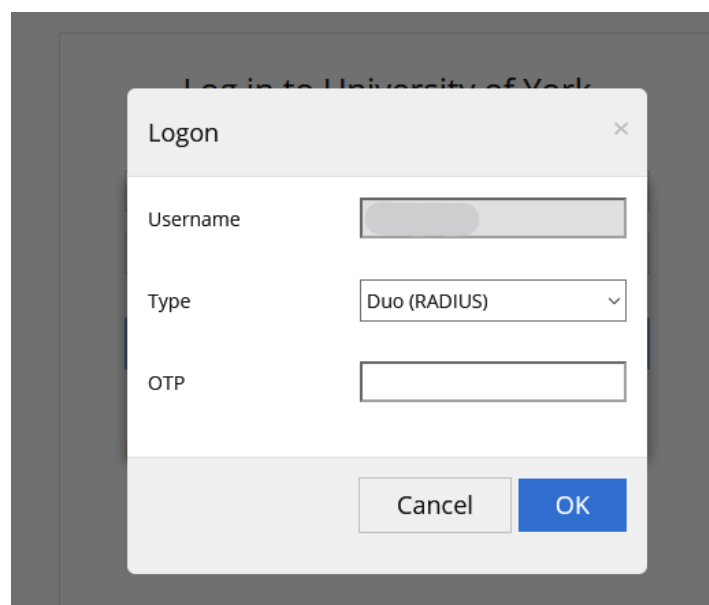
Some systems aren’t capable of displaying the Duo web pages like in the examples above. The [Virtual Desktop Service](#) and all command line systems are examples.

For these systems you can enter the passcode (generated by the Duo Mobile app) by typing it into the appropriate box or at the command line prompt. Or you can receive a push notification by typing the word **push** - you will receive a push notification in the Duo Mobile app. Click “Approve” to complete the log in.

### Example - Virtual Desktop Service

The screenshot below appears when logging in to the Virtual Desktop Service. It appears after you have entered your University username and password. You can type a passcode or the word “push” into the box labelled “OTP”.

- [3.4\) How do I log in to the Virtual Desktop Service?](#)



The screenshot shows a 'Logon' dialog box with the following fields and controls:

- Username:** A text input field that is currently greyed out.
- Type:** A dropdown menu with 'Duo (RADIUS)' selected.
- OTP:** An empty text input field for entering a passcode or the word 'push'.
- Buttons:** 'Cancel' and 'OK' buttons at the bottom right.

### Example - Command line

The screenshot below is a typical command line prompt with Duo integration where you select numerical options. Some command line prompts such as the Linux VPN client don’t have the menu but require you to enter a passcode or the word “push”.

```
*****
***                UNIVERSITY OF YORK IT SERVICES                ***
***                THIS IS A PRIVATE COMPUTER                    ***
***                UNAUTHORISED ACCESS STRICTLY PROHIBITED      ***
*****
Further authentication required
Using keyboard-interactive authentication.
Duo two-factor login for ian502

Enter a passcode or select one of the following options:

1. Duo Push to +XX XXXX XX2780
2. Duo Push to huawei tablet (Android)
3. SMS passcodes to +XX XXXX XX2780 (next code starts with: 1)
4. SMS passcodes to +XX XXXX XX0188
5. SMS passcodes to +XX XXXX XX4103

Passcode or option (1-5): █
```

## 3.2) How do I log in to services using SMS text messages?

The SMS text message method allows you to prove you are in possession of your registered mobile phone by entering a 7-digit passcode as you log in to protected systems. These passcodes are sent in bundles of ten in a text message.

If you have not enrolled your phone number with Duo then you will need to do this first:

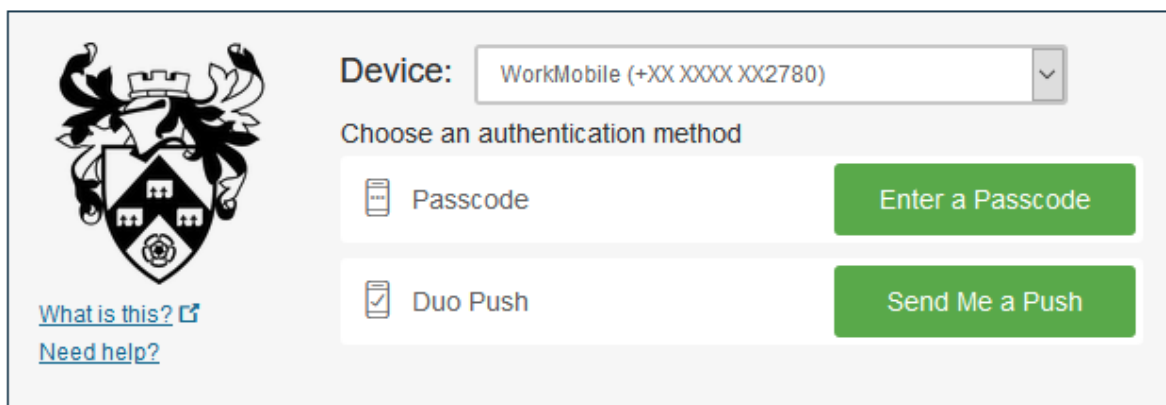
- [2.4\) How do I register \(enrol\) my phone to use the SMS text message method?](#)

The next step is to request a text message.

### Web-based systems and VPN

If you are logging onto web systems that have the full Duo interface such as the [VPN](#) and the [Duo SelfService Console](#):

1. Enter your University username and password. You will be taken to a “Choose an authentication method” screen.
2. Click **Enter a Passcode**.



The screenshot shows the Duo authentication interface. On the left is the University crest. Below it are two links: [What is this?](#) and [Need help?](#). On the right, there is a 'Device:' dropdown menu showing 'WorkMobile (+XX XXXX XX2780)'. Below this is the heading 'Choose an authentication method'. There are two options: 'Passcode' with a green button labeled 'Enter a Passcode', and 'Duo Push' with a green button labeled 'Send Me a Push'.

3. A blue bar will appear at the bottom of this screen (you might need to scroll down to see it) - click the **Text me new codes** button.

Device: WorkMobile (+XX XXXX XX2780)

Choose an authentication method

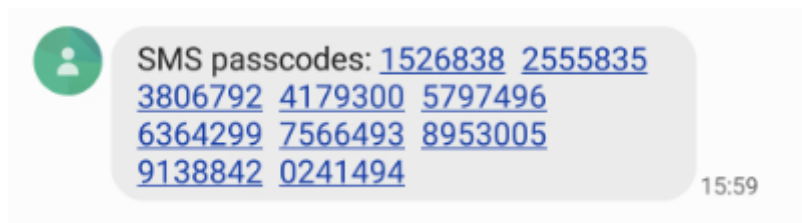
ex. 867539 Log In

Your next SMS Passcode starts with 1

Duo Push Send Me a Push

Enter a passcode from Duo Mobile or a text. Text me new codes

- You will get a single text message containing 10 passcodes. You might see the sender as DUOSEC. It should take less than 20 seconds. This is an example text message:



- Note that a hint is displayed under the passcode box showing which is the next passcode to use. Each passcode in your text message starts with a unique number (1xxxxx, 2xxxxx...). This helps you keep track of which one to use as each passcode can only be used once.
  - If you are ever unsure of which passcode to use or if you have used them all, delete all the Duo text messages on your phone and request a new text message by clicking “Text me new codes”
  - If you receive a new text message all codes from all previous text messages are invalid. Each passcode within a text message can be used in any order but only once.
- Once you have a valid text message you can enter the first unused passcode and click **Log In**.
    - [This video shows the process of logging in with a passcode](#). Note that the user is accessing a system on his laptop. The phone is only used as part of the login process.

## Other systems

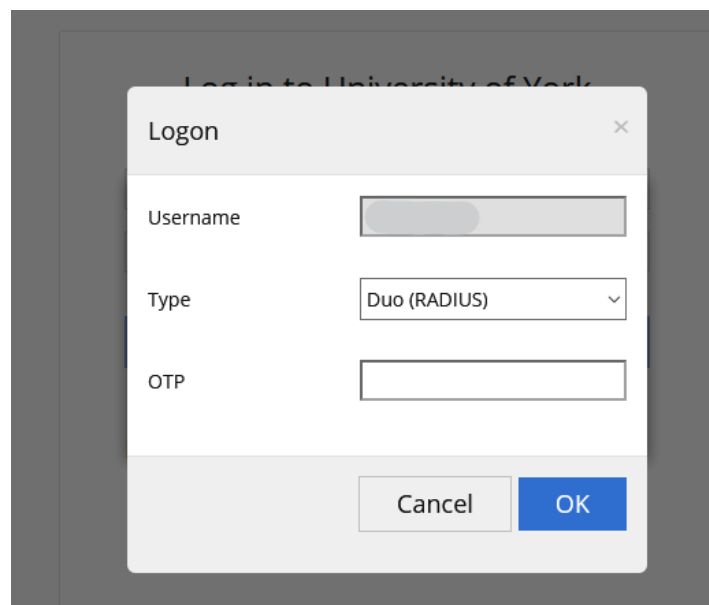
Some systems aren't capable of displaying the Duo web pages like in the examples above. The [Virtual Desktop Service](#) and all command line systems are examples. For these systems you can enter the passcode by typing it into the appropriate box or at the command line prompt.

If you use SMS text message passcodes need a new set of codes type the word **sms** and you will receive a single text message containing 10 passcodes. You can then type one of these passcodes into the system you are logging in to.

### Example - Virtual Desktop Service

The screenshot below appears when logging in to the Virtual Desktop Service. It appears after you have entered your University username and password. You type a passcode or the word "sms" into the box labelled "OTP".

- [3.4\) How do I log in to the Virtual Desktop Service?](#)



The screenshot shows a 'Logon' dialog box with the following fields and controls:

- Username:** A text input field that is currently greyed out.
- Type:** A dropdown menu with 'Duo (RADIUS)' selected.
- OTP:** An empty text input field for entering a passcode or 'sms'.
- Buttons:** 'Cancel' and 'OK' buttons at the bottom right.

### Example - Command line

The screenshot below is a typical command line prompt with Duo integration where you select numerical options. Some command line prompts such as the Linux VPN client don't have the menu but require you to enter a passcode or the word "sms".

```
*****
***          UNIVERSITY OF YORK IT SERVICES          ***
***
***          THIS IS A PRIVATE COMPUTER              ***
***          UNAUTHORISED ACCESS STRICTLY PROHIBITED ***
*****
Further authentication required
Using keyboard-interactive authentication.
Duo two-factor login for ian502

Enter a passcode or select one of the following options:

1. Duo Push to +XX XXXX XX2780
2. Duo Push to huawei tablet (Android)
3. SMS passcodes to +XX XXXX XX2780 (next code starts with: 1)
4. SMS passcodes to +XX XXXX XX0188
5. SMS passcodes to +XX XXXX XX4103

Passcode or option (1-5): █
```

### 3.3) How do I log in to services using a hard token or security key?

The hard token method allows you to prove you are in possession of your hard token by entering a passcode generated by the token as you log in to protected systems.

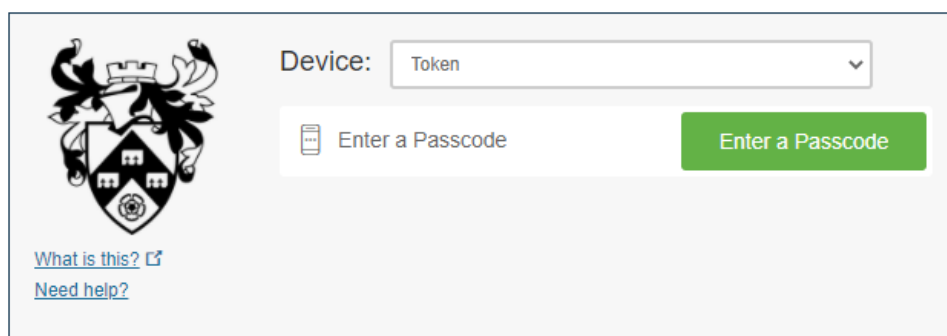
These hard tokens are available to request if the Duo Mobile app or SMS text message isn't an option for you:

- [2.5\) How do I get a hard token?](#)

#### Web-based systems and VPN

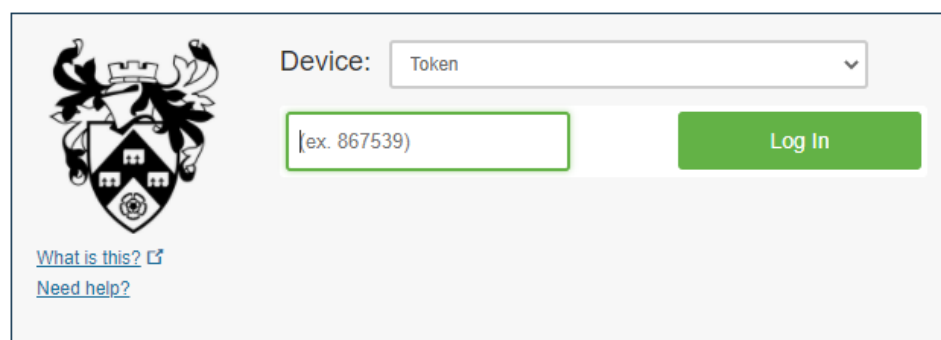
If you are logging onto web systems that have the full Duo interface such as the [VPN](#) and the [Duo SelfService Console](#):

1. Enter your University username and password. You will be taken to a “Choose an authentication method” screen.



The screenshot shows the Duo authentication interface. On the left is the University crest. To its right is a 'Device:' dropdown menu with 'Token' selected. Below the dropdown are two buttons labeled 'Enter a Passcode'. The first button has a small icon of a hard token to its left. Below the crest are two links: 'What is this?' and 'Need help?'.

2. Choose “Enter a passcode”:



The screenshot shows the Duo authentication interface after the user has selected a passcode. The 'Device:' dropdown remains set to 'Token'. The first 'Enter a Passcode' button is now highlighted with a green border, and its text has been replaced with the example passcode '(ex. 867539)'. The second button is now labeled 'Log In'. The rest of the interface, including the crest and help links, remains the same.

3. The next steps depend on whether you have a Duo hard token or a security key.
  - **Duo hard token:** Press the button on your hard token to generate a new passcode - type the passcode into the box and click **Log In**.
    - Make sure that the hard token is the correct way up. The easiest way to tell is that the “Duo” logo should be the correct way up, as shown in this picture.



- **Security key:** Make sure Caps Lock is off. Connect your security key to a USB port on your computer and touch the gold contact. A passcode will be automatically entered into the box on-screen and you will be logged in.
  - A new passcode is generated each time you touch the key.



## Other systems

Some systems aren't capable of displaying the Duo web pages like in the examples above. The [Virtual Desktop Service](#) and all command line systems are examples.

For these systems:

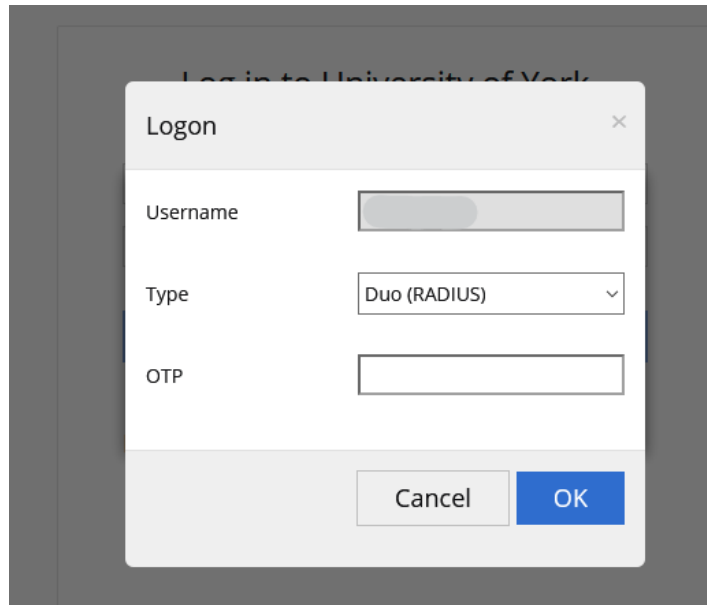
- **Duo hard token:** You can enter the passcode (generated by the hard token/security) by typing into the appropriate box or at the command line prompt.
- **Security key:** Make sure Caps Lock is switched off. Connect your security key to a USB port on your computer, touch the gold contact on the security key to have it automatically enter a passcode into the appropriate box or at the command line prompt.

## Example - Virtual Desktop Service

The screenshot below appears when logging in to the Virtual Desktop Service. It appears after you have entered your University username and password. You can enter a passcode into the box labelled "OTP".

- [3.4\) How do I log in to the Virtual Desktop Service?](#)





### Example - Command line

The screenshot below is a typical command line prompt with Duo integration where you select numerical options. Some command line prompts such as the Linux VPN client don't have the menu but require you to enter a passcode.

```
*****
***                UNIVERSITY OF YORK IT SERVICES                ***
***                THIS IS A PRIVATE COMPUTER                    ***
***                UNAUTHORISED ACCESS STRICTLY PROHIBITED      ***
*****
Further authentication required
Using keyboard-interactive authentication.
Duo two-factor login for ian502

Enter a passcode or select one of the following options:

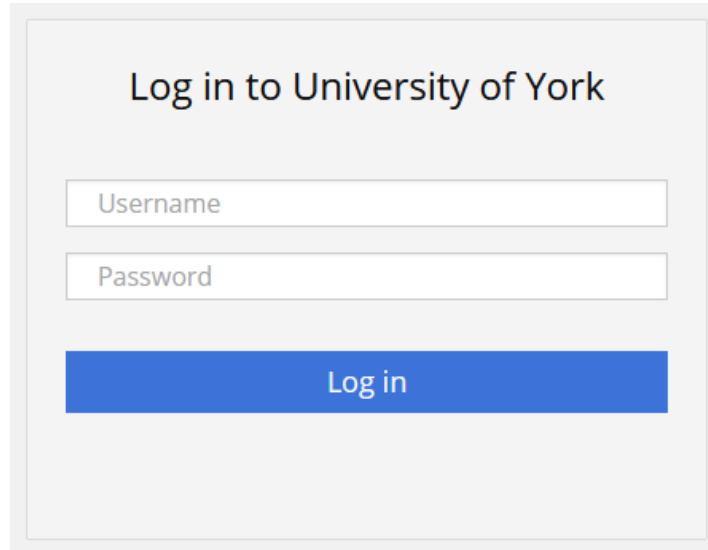
1. Duo Push to +XX XXXX XX2780
2. Duo Push to huawei tablet (Android)
3. SMS passcodes to +XX XXXX XX2780 (next code starts with: 1)
4. SMS passcodes to +XX XXXX XX0188
5. SMS passcodes to +XX XXXX XX4103

Passcode or option (1-5): █
```

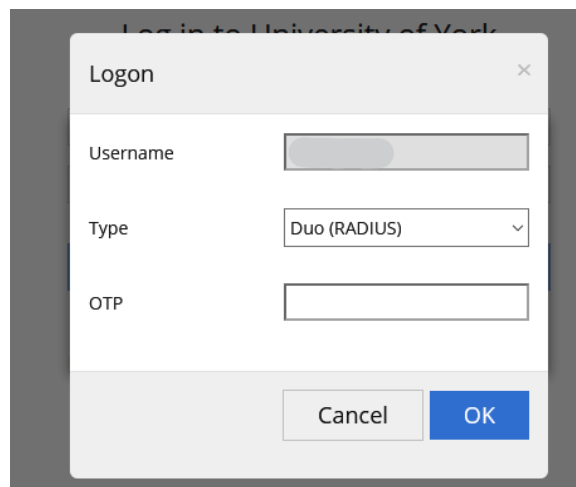
### 3.4) How do I log in to the Virtual Desktop Service?

The [Virtual Desktop Service](#) (VDS) doesn't have web pages that can display all the normal Duo options when you are logging in. Therefore you'll authenticate in a slightly different way to systems like the [VPN](#).

1. Enter your University username (in the format *abc123*) and password and click **Log in**.



2. A pop-up box will appear. You can ignore the Username and Type boxes. You will need to type something into the **OTP** box - use the table below to work out what to enter before clicking OK.



Device Type	What to enter	Notes
Security key	Enter the passcode generated by your key.	Security keys will enter a passcode automatically when you touch the gold contact.
Hard token	Enter the passcode generated by your token.	
Duo Mobile app	Type <b>push</b>	You can alternatively type the passcode generated from within the Duo Mobile app.
SMS text	Type an unused passcode	If you need new passcodes type the word <b>sms</b> and click OK -

message	from your most recent text message.	you should receive a text message containing ten new 7-digit passcodes. <ul style="list-style-type: none"><li>• <a href="#">8 -- How do I use the SMS method?</a></li></ul> You'll need to enter your University username and password again as it will seem like you have failed authentication. That is normal.
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If you can't log in to this system it is a good idea to test your Duo registered device.

- [2.6\) How do I test my registered device?](#)

## 3.5) Can I use Duo outside of the UK?

Yes, all the methods will work outside of the UK and [IT Support](#) can provide temporary methods to authenticate if your situation means your normal Duo device won't work.

You can also register non-UK phone numbers with Duo.

See also: [3.6\) Is it possible to use Duo if I have no mobile phone signal or wifi?](#)

### Duo Mobile app

If you have a mobile device with the Duo Mobile app, you can get passcodes from it without needing any kind of signal.

- [3.1\) How do I log in to services using the Duo Mobile app?](#)

### SMS text message

If you use the SMS text message method this will also work wherever you can receive text messages. Be aware some network providers charge for you to receive text messages when abroad. Check with your provider if this is a concern.

- [3.2\) How do I log in to services using SMS text messages?](#)

### Hard token/security key

A hard token or security key will work anywhere in the world, as it does not require a mobile phone signal or wifi connection.

- [3.3\) How do I log in to services using a hard token?](#)

### Temporary methods

If you normally use a mobile device for Duo but don't want to take this abroad, [IT Support](#) can provide a temporary method for you to use. This might be a hard token if you are on a longer trip or a bypass code if a short trip. You'll need to do this well in advance of your departure.

## 3.6) Is it possible to use Duo if I have no mobile phone signal or wifi?

Yes. There are a few ways you can still use Duo if you are (or will be) in an area with no mobile data signal or wifi.

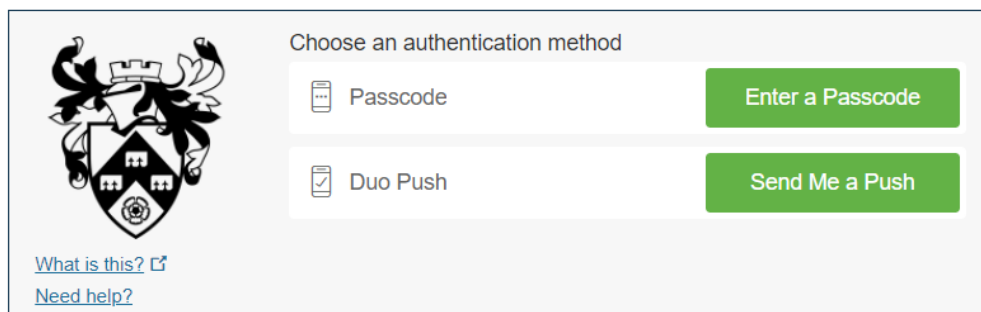
### Duo Mobile app

An advantage of the Duo Mobile app is that, once it is set up, you can use it when there is no data signal to the device. This includes labs where this isn't permitted, areas where wifi & 4G are weak or when travelling abroad.

- [2.3\) How do I register \(enrol\) a device to use the Duo Mobile app?](#)

To use log in to a Duo-protected service without a signal:

1. Open the **Duo Mobile app**
2. Click on **University of York**. A 6-digit passcode is revealed. You can enter this as a passcode (by clicking "Enter a Passcode") when logging in.



For further information on using the Duo Mobile app see:

- [3.1\) How do I log in to services using the Duo Mobile app?](#)

### SMS text messages

When you request passcodes via an SMS text message, you will receive a message containing ten 7-digit passcodes. These codes can still be used if you don't have a mobile data signal or wifi connection on your Duo device. You will need to request the passcodes before you move to a location with no phone signal.

Each code can only be used once.

- [2.4\) How do I register \(enrol\) my phone to use the SMS text message method?](#)
- [3.2\) How do I log in to services using SMS text messages?](#)

### Hard token/security key

The hard tokens and security keys do not require any kind of mobile phone signal or wifi connection to work.

- [2.5\) How do I get a hard token?](#)
- [3.3\) How do I log in to services using a hard token?](#)

### 3.7) What if I don't have my Duo registered device with me?

If you need to log in to a Duo-protected service, but you do not have your Duo registered device with you (for example if you've left your phone at home), then you will need to [phone IT Support](#) during normal opening hours. They will take you through some steps to verify your identity and then help you resolve the issue.

You may be given a **bypass code**. This is a long number which you use in exactly the same way as a passcode gained from a text message or hardware token.

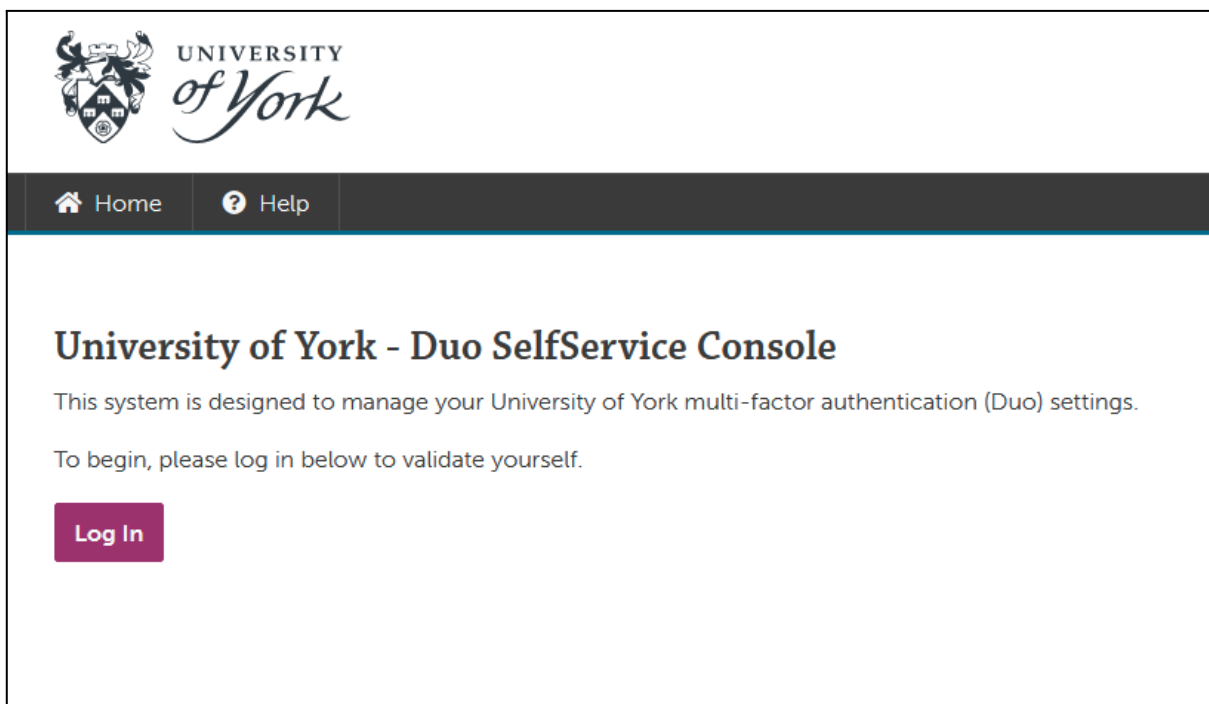
## 4 -- Changing your Duo device

### 4.1) I changed my mobile phone but kept the same phone number. How do I use the Duo Mobile app again?

If you change your phone (or delete the Duo Mobile app from your phone) you won't be able to use the Duo Mobile app until you have reactivated it.

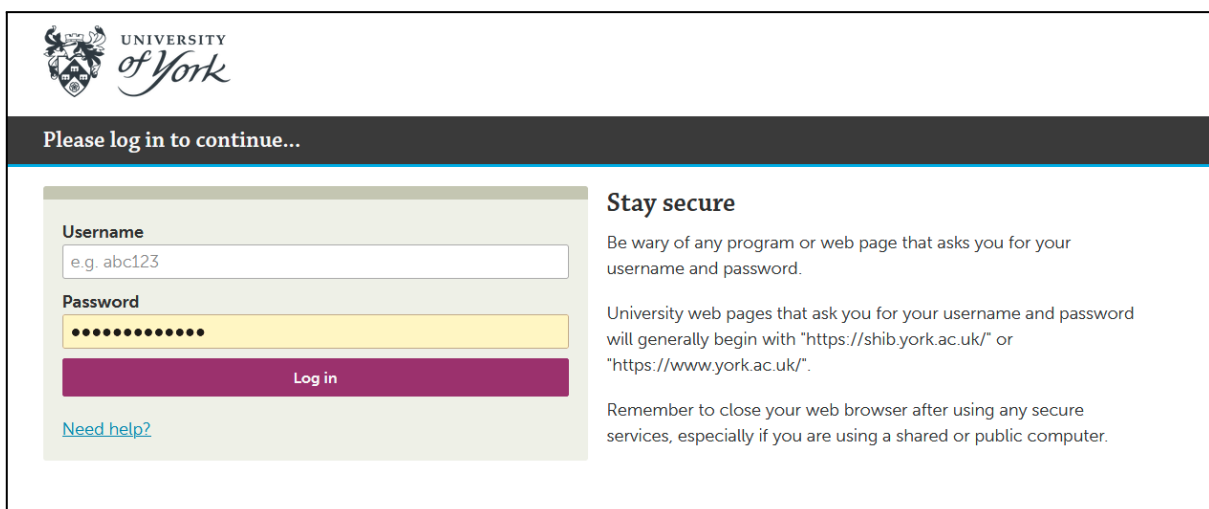
If you still use the same mobile phone number you can get a passcode sent to your mobile phone via SMS text message which you can then use to log in to the Duo SelfService Console and reactivate the Duo Mobile app:

1. Go to <https://duo.york.ac.uk/> to your web browser



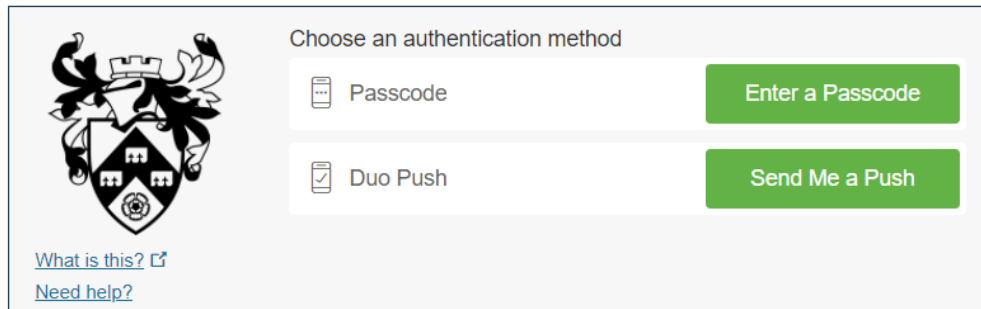
The screenshot shows the top of the Duo SelfService Console. At the top left is the University of York crest and logo. Below it is a navigation bar with 'Home' and 'Help' links. The main heading is 'University of York - Duo SelfService Console'. Below the heading is a paragraph: 'This system is designed to manage your University of York multi-factor authentication (Duo) settings. To begin, please log in below to validate yourself.' A purple 'Log In' button is centered below the text.

2. Log in with your normal University username and password

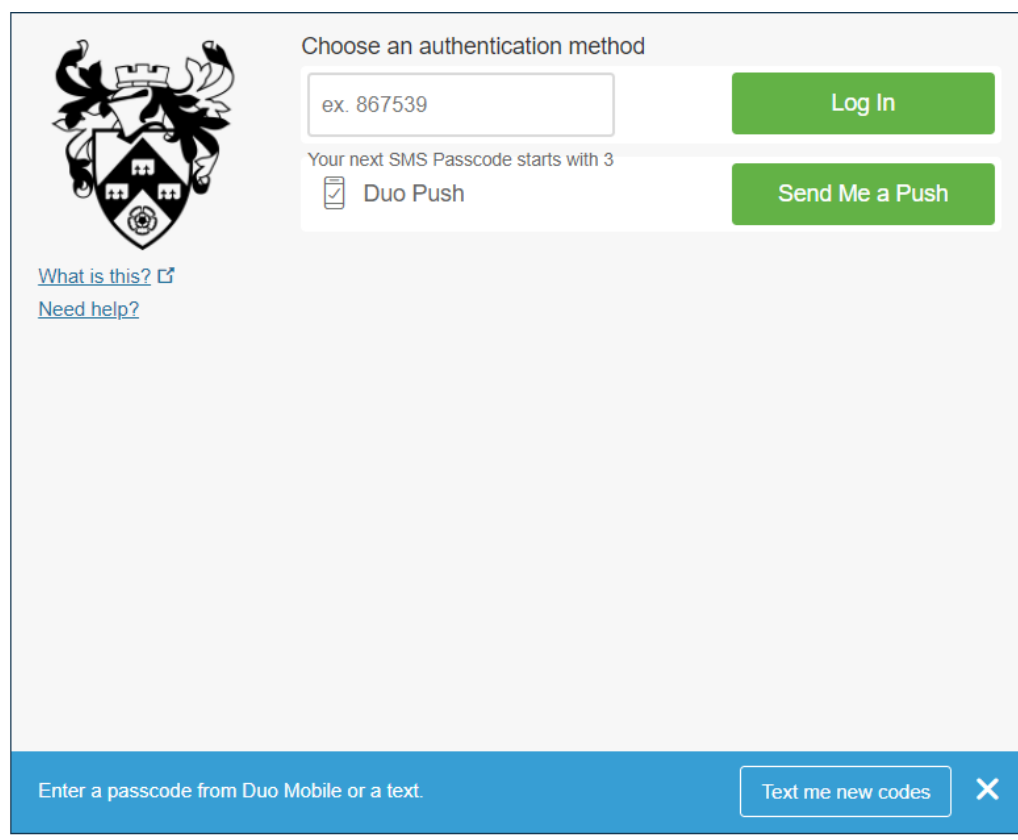


The screenshot shows the login form on the Duo SelfService Console. At the top left is the University of York crest and logo. Below it is a dark bar with the text 'Please log in to continue...'. The main content area is divided into two columns. The left column contains a 'Username' field with the placeholder 'e.g. abc123', a 'Password' field with masked characters, and a purple 'Log in' button. Below the password field is a link for 'Need help?'. The right column is titled 'Stay secure' and contains three paragraphs of security advice: 'Be wary of any program or web page that asks you for your username and password.', 'University web pages that ask you for your username and password will generally begin with "https://shib.york.ac.uk/" or "https://www.york.ac.uk/"', and 'Remember to close your web browser after using any secure services, especially if you are using a shared or public computer.'

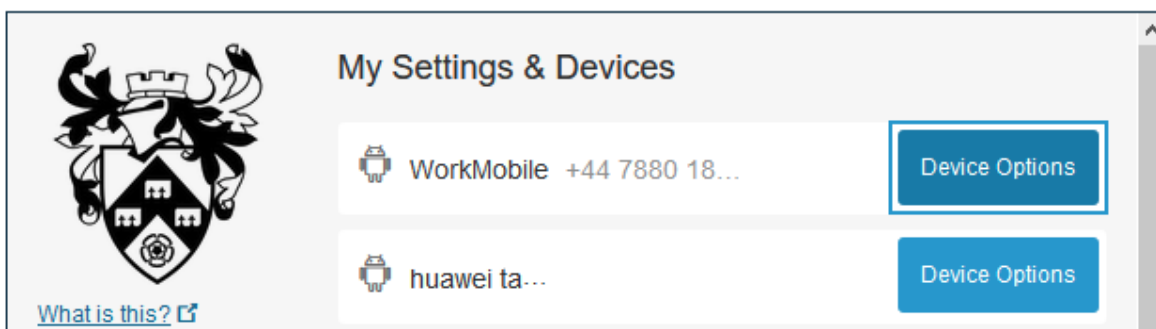
- Under "Choose an authentication method", click **Enter a Passcode**.



- At the bottom, click **Text me new codes** in the blue bar.
- When the text message arrives enter the first 7-digit passcode into the box and click **Log In**.

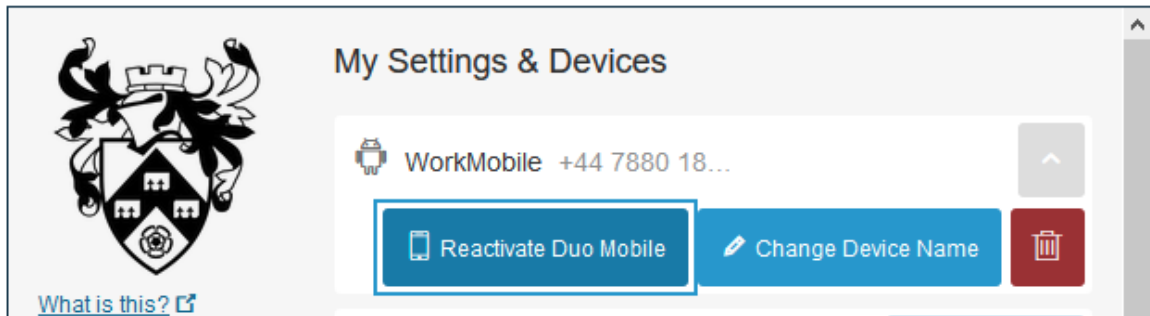


- Click the **Device Options** button next to the mobile phone that you want to reactivate.

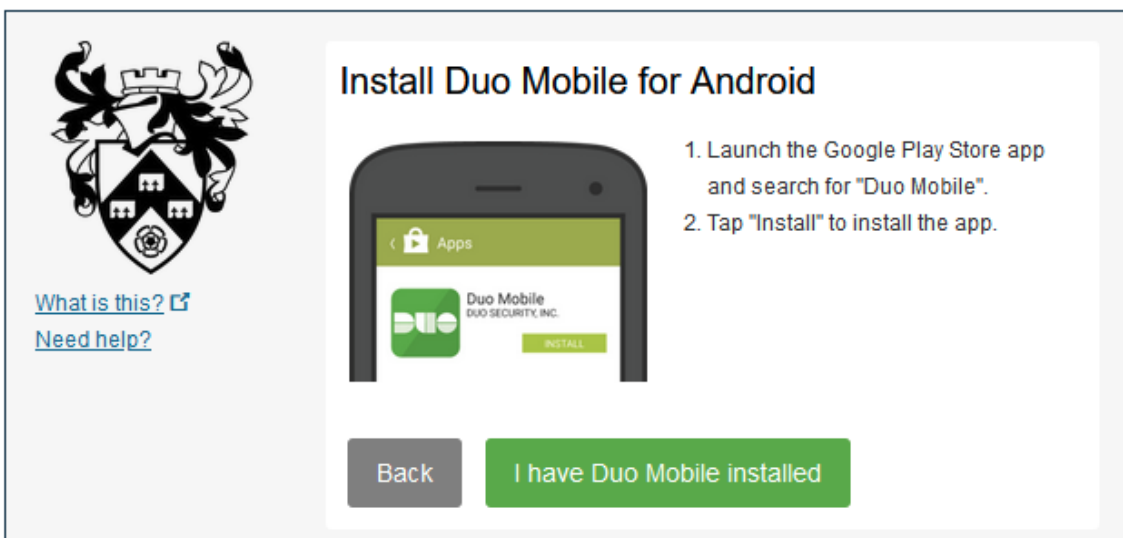




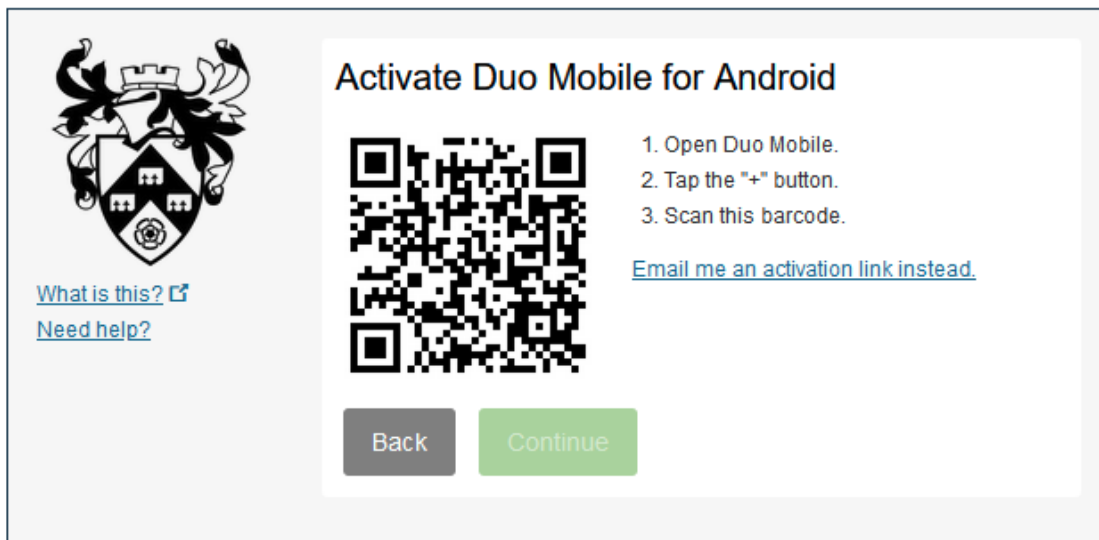
7. Click **Reactivate Duo Mobile**.



8. You will now be prompted to install the Duo Mobile app on your phone. When you have installed the app, click **I have Duo Mobile installed**.



9. You will now be presented with a barcode. On your mobile phone, open the Duo Mobile app and click the + button (in the menu at the top). Point your device's camera at the barcode so your device can scan it. Once your device has scanned the barcode, click Continue.
- If for any reason you can't scan the barcode, alternatively:
    - a. Choose "Email me an activation link instead" to be sent a special link you can click to activate the Duo Mobile app.
    - b. Choose "Take me to Duo Mobile instead" - this will give you an option to open the Duo Mobile app and complete the activation.



The Duo Mobile app on your device is now activated. We recommend you test it to make sure that it is working.

- [2.6\) How do I test my registered device?](#)

You should now be able to use it to log in to Duo-protected services.

- [3.1\) How do I log in to services using the Duo Mobile app?](#)

## 4.2) I changed my mobile phone but kept the same phone number. How do I use the SMS text message method again?

There is no action to take if you continue to have access to a phone with the registered number.

The SMS text messages sent by Duo will go to the new handset the next time you request one. You can test this is working following these steps:

- [2.6\) How do I test my registered device?](#)
- [3.2\) How do I log in to services using SMS text messages?](#)

### 4.3) I have a new phone and new number. How do I register it for Duo?

This section assumes you previously registered a device with Duo and that it isn't your first ever registration with Duo.

In this circumstance, unless you still have your old phone and can use it to sign in to the [Duo SelfService Console](#), you won't be able to proceed by yourself. You will need to [phone IT Support](#) during normal opening hours. They will take you through some steps to verify your identity and then help you resolve the issue.

You may be given a **bypass code**. This is a long number which you use in exactly the same way as a passcode gained from a text message or hardware token. Use the bypass code to log in to the [Duo SelfService Console](#) and delete the old device before adding your new device.

If you still have your old phone, sign in to the [Duo SelfService Console](#) and then click **Add another device**. Once you've added your new device, you can remove your old device by clicking **Device options** and then the Bin/Trash icon.

- [2.2\) How do I log in to the Duo SelfService Console?](#)

## 4.4) Duo Restore

You can turn on Duo Restore to make recovering your Duo access easier (eg when moving from one device to another, or after resetting your device):

- [Duo Mobile: Duo Restore for Android](#)
- [Duo Mobile: Duo Restore for iOS/iPadOS](#)

Alternatively, as long as you still have the same phone number you can restore your access to Duo on an iOS/iPad or Android device another way:

- [4.1\) I changed my mobile phone but kept the same phone number. How do I use the Duo Mobile app again?](#)

Otherwise, [contact IT Support](#) for assistance.

## 5 -- Troubleshooting Duo

### 5.1) What should I do if my Duo device is lost or stolen?

Please [phone IT Support](#) immediately. They can prevent your account from being accessed as soon as they know.

They can also issue a temporary **bypass code** to get you connected until a replacement device can be arranged.

## 5.2) I've deleted the Duo Mobile app from my device. What should I do?

If you remove the Duo Mobile app from your device it breaks the link between the app and the Duo service. The app will need to be reactivated in order to get it working again.

**If you have set up Duo Restore**, you may be able to use this to recover your Duo account:

- [4.4\) Duo Restore](#)

**If you still have the same phone number**, the process is the same as if you had changed your mobile phone:

- [4.1\) I changed my mobile phone but kept the same phone number. How do I use the Duo Mobile app again?](#)

**Otherwise, if you have a different phone number, or if you never registered your phone number** with Duo, you will need to [contact IT Support](#) for assistance.

## 5.3) I select “Send Me a Push” when logging in to a system but nothing happens?

### Self test

Before troubleshooting your push notification issue, test your Duo registered device:

- [2.6\) How do I test my registered device?](#)

This will ensure the problem isn't with the system you are logging in to. If you get the same result with the [Duo SelfService Console](#) continue with this section. If push notifications work when logging in to the Duo SelfService Console then please [contact IT Support](#).

### Triage

If you have chosen the option to be sent a push notification when you are logging in but you don't see anything appear on your mobile phone or tablet then one of two things could be happening:

1. The Duo Mobile app has received the push but settings on the phone are preventing it from displaying
2. The Duo Mobile app isn't talking to the Duo cloud service and so does not receive the push

To work out which is happening do the following:

1. Open the Duo Mobile app.
2. Go to the [Duo SelfService Console](#)
3. Log in and click **Send Me a Push**

If the Duo Mobile app displays a green request to approve (at the top), then the problem is only with the phone's notifications (where messages appear regardless of what app you're using).

If the Duo Mobile app does not display a green request to approve (at the top), then the issue is the communication between phone/tablet and the internet.

### Troubleshoot a notification issue

Follow the guidance on the Duo help pages to troubleshoot a notification issue:

- [Troubleshooting Duo Push notification issues on Android devices](#)
- [Troubleshooting Duo Push notification issues on iOS devices](#)

You will still be able to receive the push within the Duo Mobile app even if notifications are not working on your device.

### Troubleshoot a communication issue

The app may need to be reactivated in order to get it working again.

If your Duo device is a mobile phone and you still have the same phone number, the process is the same as if you had changed your mobile phone:

- [4.1\) I changed my mobile phone but kept the same phone number. How do I use the Duo Mobile app again?](#)

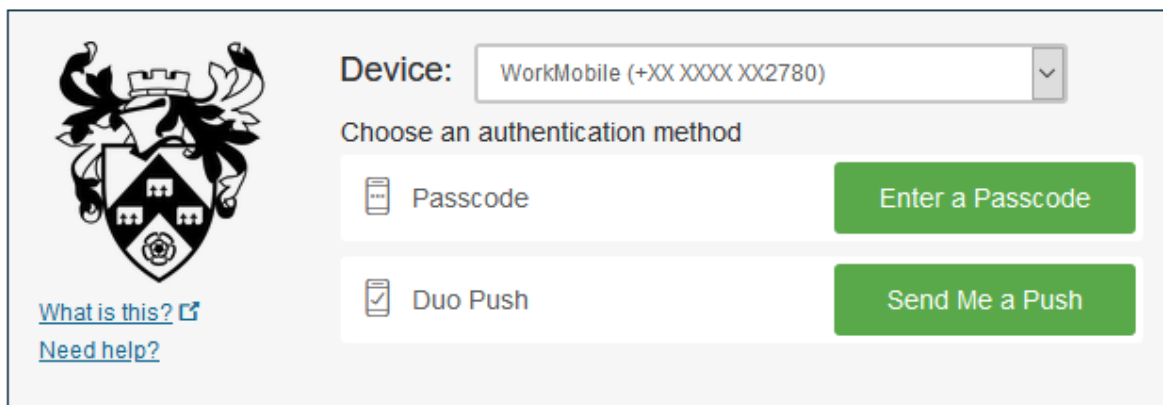
If you have a different phone number, or if you never registered your phone number with Duo, you will need to [contact IT Support](#) for assistance.



## 5.4) I'm not receiving any passcodes via SMS text message. What should I do?

### Check your phone number

When logging in to most Duo-protected services, part of your phone number will be displayed on-screen. Verify that this matches your current phone number.



The screenshot shows a Duo authentication interface. On the left is the University of Cambridge crest. Below it are two links: "What is this?" and "Need help?". To the right, there is a "Device:" dropdown menu showing "WorkMobile (+XX XXXX XX2780)". Below this is the heading "Choose an authentication method". There are two options: "Passcode" with a green button labeled "Enter a Passcode", and "Duo Push" with a green button labeled "Send Me a Push".

If this phone number does not match you will need to [contact IT Support](#) for assistance.

### Check your phone signal

If you have a weak mobile phone signal (or no signal at all) you won't be able to receive SMS text messages. Try moving to an area with a stronger signal, if you can.

## 5.5) I can't log in with my hard token or security key. What should I do?

There are a couple of possible reasons why you may be experiencing problems logging in with your hard token.

### Broken Duo hard token

If nothing appears on the screen when you press the button then the device is broken.

Please [contact IT Support](#) to request a new one.

### Passcode generated by Duo hard token is not working / out of sync

First make sure that the hard token is the correct way up. The easiest way to tell is that the "Duo" logo should be the correct way up, as shown in this picture.



If your token is the correct way up, and the number that appears still doesn't work (even after a couple of attempts) then this might be the result of the token getting out of sync. This can happen if the button on the token is pressed more than five times without logging in.

To fix this you will need to [phone IT Support](#) who will ask you to go through a short process to re-sync the token.

### Security key entering passcode in the wrong place

Make sure you click to put your cursor into the place you need to enter the passcode. For example, in the "Passcode" box on the Duo login prompt, or the "OTP" box when logging in to the Virtual Desktop Service.

- [3.3\) How do I log in to services using a hard token or security key?](#)

### Security key entering passcode in UPPERCASE LETTERS

If Caps Lock is on, the passcode generated by the security key will be entered in all UPPERCASE and the login attempt will fail. Make sure that Caps Lock is off.

## 5.6) How can I get further assistance?

For further assistance with Duo two-factor authentication please contact the IT Support team:

- [Contact IT Support](#)