



How to set up devices for the use of university Wi-Fi networks

- only for members of Goethe University Frankfurt am Main -

Version 1.4

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Windows

You have two options for setting up eduroam on a Windows system:

Goethe-PEAP

Manuel version

Goethe-PEAP

- Download <u>Goethe-PEAP.exe</u> and run it.
- Then the script starts and installs the Wi-Fi networks "FLUGHAFEN" and "eduroam".



Figure 1 Win PEAP-Script

• Now join eduroam

You can usually do this at the bottom right of the screen. For Windows 10, click one of the icons shown below. For other versions of Windows, the icons are similar.



Figure 2 Win 10 WI-FI symbol without ethernet

Figure 3 Win 10 WI-FI symbol with ethernet

• Finally, enter your user credentials:

User Name:	<hrz-account>@uni-frankfurt.de</hrz-account>
Password:	<hrz-password></hrz-password>

	탄thern 문고 Conne	ected			
	Geoderica Geoderica	am ed • •		÷e	
Windows Sec	urity				\times
Sign in					
<hrz-acc< td=""><td>count>@uni-fr</td><td>ankfurt.de</td><td></td><td></td><td></td></hrz-acc<>	count>@uni-fr	ankfurt.de			
•••••	•		0		
	ОК		Can	cel	
	<u>Network &</u> Change setting	Internet setti 95, such as maki	ings ng a connect	ion metered.	
	ll.	∽	(ျာ) Mobile		
	Wi-Fi	Airplane mode	e hotspot		
		^	* <i>(</i> , \$	07:59 07.05.2019	

Figure 4 Win 10 WI-FI user credentials

Manuel version

In the various versions of Windows, the way to manually setting up a wireless network differs. This is shown as an example on Windows 10. In the gray box you will find the way for Windows 7.



Windows 10:

• In the "Network and Internet settings", click "Network and Sharing Center".



Figure 5 Win 10 Network and Internet settings

• There you click on "Set up a new connection or network".

Network and Sharing Center				-	×
← → × ↑ 🛂 → Control Pa	All Control Panel Hereinian Statement of Control Panel Items All Control Panel Items Network and Sharing Center Sector Statement of Control Panel Hereinian Statement of Control Panel Items (Control Panel Items) Sector Statement of Control Panel Items (Control Panel Items) Sector Statement of Control Panel (Control Panel (Control Panel (Control				P
Control Panel Home	View your basic network information and set up connections				
Change adapter settings					
Change advanced sharing settings	Netzwerk Public network	Access type: Internet			
Media streaming options					
	Nicht identifiziertes Netzwerk Public network	Access type: No network access Connections:			
	Change your networking settings				
	Troubleshoot problems Diagnose and repair network problems, or get	troubleshooting information.			
See also					
Infrared					
Internet Options					
Windows Defender Firewall					

Figure 6 Win 10 Network and Sharing Center

• Now select "Manually connect to a wireless network".



Figure 7 Win 10 New Connection or Network

• Enter the Network name and Security type and then click "Next".

Network nam Security type:	e: eduroa WPA2	nm -Enterprise				
÷	👰 Manually connect to a wi	ireless network		-		×
	Enter information for	the wireless network you wa	ant to add			
	Network name:	eduroam				
	Security type:	WPA2-Enterprise ~				
	Encryption type:	AES ~				
	Security Key:		Hide character	2		
	Start this connection a	automatically				
	Connect even if the n	etwork is not broadcasting				
	Warning: If you select	t this option, your computer's privacy	y might be at risk.			
			1	lext	Cance	el

Figure 8 Win Manually connect to a wireless network

• Click on "Change connection settings".

	_	-		×
÷	Manually connect to a wireless network			
	Successfully added eduroam			
	→ Change connection settings Open the connection properties so that I can change the settings.			
			Clo	ose

Figure 9 Win Wireless network created

• Select "Microsoft: Protected EAP (PEAP)" and open "Settings".

eduroam Wireless Netv	vork Properties		×
Connection Security			
S <u>e</u> curity type: E <u>n</u> cryption type:	WPA2-Enterprise	~	
Choose a network aut	hentication method:	Sattings	
Remember my creatime I'm logged on	dentials for this connect	ion each	
		OK Cancel	

Figure 10 Win Properties wireless network

- Enable "Verify the server's identity by validation the certificate".
- Select "Connect to the these servers" and enter the following: (the whole red text must be in one line, remove any line breaks)

firlefanz.server.uni-frankfurt.de;doppelterdohmen.server.unifrankfurt.de;scheppekraus.server.uni-frankfurt.de;unsermannauseinoed.server.unifrankfurt.de;herrkonzausberg.server.uni-frankfurt.de;schaedelharry.server.unifrankfurt.de;tankstellencaio.server.uni-frankfurt.de;radius.server.uni-frankfurt.de

- Select "Trusted Root Certification Authorities" "USERTrust RSA Certification Authority" and "T-TeleSec GlobalRoot Class 2".
- Enable "Enable Identity Privacy" and enter eduroam.
- Click "Configure".

Protected EAP Properties	×
When connecting:	
Verify the server's identit	y by validating the certificate
Connect to these server	s (examples:srv1;srv2;.*\.srv3\.com):
lencaio.server.uni-fra	nkfurt.de;radius.server.uni-frankfurt.de
Trusted Root Certification A	uthorities:
thawte Primary Root CA	<u> </u>
✓ T-TeleSec GlobalRoot C	ass 2
T-TeleSec GlobalRoot C	ass 3
USERTrust RSA Certific	ation Authority
verisign class 3 Public P	rimary certification Authority - G5
VeriSign Universal Root	Certification Authority 🗸
<	>
Notifications before connecti	ng:
Tell user if the server's iden	tity can't be verified V
Select Authentication Method:	
Secured password (EAP-MSC	HAP v2)
Enable East Reconnect	
Disconnect if server does n	ot present cryptobinding TLV
Enable Identity Privacy	eduroam
	coaroani

Figure 11 Win Properties of Protected EAP

• Make sure that the option in window Figure 12 is not selected. After that you can close both windows with "OK".

EAP MSCHAPv2 Properties	\times
When connecting:	
Automatically use my Windows logon name a password (and domain if any).	nd
OK Cancel	

Figure 12 Win MSCHAPv2 Properties

• In the window (Figure 13) open the "Advanced settings". In the new window (Figure 14) choose as the authentication mode "User authentication".

eduroam Wireless Network Properties	X Advanced settings X
Connection Security	802.1X settings
Security type: WPA2-Enterprise ✓ Encryption type: AES ✓	User authentication Save credentials Delete credentials for all users
Ch <u>o</u> ose a network authentication method: Microsoft: Protected EAP (PEAP) \checkmark <u>Settings</u> Remember my credentials for this connection each time I'm logged on A <u>d</u> vanced settings OK Can	Image: constraint of the second state of the second sta
Figure 13 Win Properties wireless network	<i>'k Figure 14 Win Advanced settings</i>

• You can close all windows with "OK".

• Now join eduroam

You can usually do this at the bottom right of the screen. For Windows 10, click one of the icons shown below. For other versions of Windows, the icons are similar.



Figure 15 Win 10 WI-FI symbol without ethernet

Figure 16 Win 10 WI-FI symbol with ethernet

• Finally, enter your user credentials:

User Name:	<hrz-account>@uni-frankfurt.de</hrz-account>
Password:	<hrz-password></hrz-password>

	Ethern Conne	et ected			
	Geduroa Secure	im ed • •	···	ŧr.	
Windows Sec	urity				×
Sign in					
<hrz-acc< td=""><td>:ount>@uni-fra</td><td>ankfurt.de</td><td></td><td></td><td></td></hrz-acc<>	:ount>@uni-fra	ankfurt.de			
•••••	•		୍		
	ОК		Can	cel	
	<u>Network &</u> Change setting	I <u>nternet setti</u> ıs, such as makir	<u>ngs</u> 1g a connect	ion metered.	
	lla.	ъ <u>р</u>	(ျာ) Mobile		
	Wi-Fi	Airplane mode	hotspot	07.50	
		^	*/?。\$	07:59 07.05.2019	

Figure 17 Win 10 WI-FI user credentials

Mac OSX

This guide is based on macOS Sonoma (14.2). There were minimal differences in older versions.

Configuration file

• Load and open the configuration file <u>Goethe-Uni-FFM-Wifi.mobileconfig</u>.



• Go to "System Settings" and under "Privacy & Security" open "Profiles".

•••	< > Privacy & Security	
	Sensitive Content Warning	
💷 Sound		
C Focus	Analytics & Improvements	
🔀 Screen Time	🗾 Apple Advertising	
😥 General		
Appearance	Security	
Accessibility	Allow applications downloaded from	
Control Centre	App Store	
💽 Siri & Spotlight	App Store and identified developers	
Privacy & Security	ileVault	
Desktop & Dock	Lockdown Mode	
🔆 Displays		
😸 Wallpaper	Othere	
Screen Saver		
Battery	E Extensions	
Lock Screen	Profiles	
Mouch ID & Password		
😕 Users & Groups		Advanced ?

Figure 18 macOS Profiles

• Double-click the new profile.



Figure 19 macOS Profile review

• Make sure that the profile is signed by the "Johann Wolfgang Goethe-Universität Frankfurt am Main SdöR" and then click on "Install".

	Are	you sure you want to install this profile?		
	Goethe- de.uni-fr	Uni-FFM-Wifi-2023-10-18.mobileconfig ankfurt.profile Verified	1	
Screen Time	Description 2	Zugangsprofil für die drahtlosen Netzwerke eduroam, FLUGHAFEN - 2023-10-18		
Appearance	Signed	Johann Wolfgang Goethe-Universität Frankfurt am Main SdöR	l	
Accessibility	Received	13. Dec 2023 at 12:44		
	Settings	Certificate USERTrust RSA Certification Authority Certificate		
Desktop & Dc Displays		T-TeleSec GlobalRoot Class 2 Wi-Fi Network eduroam		
Wallpaper		Wi-Fi Network Flughafen		
 Screen Saver Battery 	Details			
Lock Screen				

Figure 20 macOS Profile signature

• Confirm with "Continue" in the next window.



Figure 21 macOS Profile security question

• Enter your user credentials and click "Next" / "Install":

User Name:	<hrz-account>@uni-frankfurt.de</hrz-account>
Password:	<hrz-passwort></hrz-passwort>



Figure 22 macOS User credentials eduroam

•••		
	B Work or School Account	
	Enter settings for "Goethe-Uni-FFM-Wifi-2023-10-18.mobileconfig":	
Appearance	Enter settings for the enterprise network "FLUGHAFEN":	
	Username: <hrz-account>@uni-frankfurt.de</hrz-account>	
	Password: <hrz-password></hrz-password>	
🔲 Desktop & [
	Cancel Previous Install	
🛞 Wallpaper 🗧		
🚊 Lock Screen		
Touch ID & Pas		

Figure 23 macOS User credentials FLUGHAFEN

• Click "Install" again.

Sparch			
		Work or School Account	
	Profile "Goethe-	Uni-FFM-Wifi-2023-10-18.mobileconfig"	
	Lieber Nutzer, bit Schema:	te verwenden Sie bei der Anmeldung am WLAN das folgende	
Appearance	Benutzernamen:	<hrz-account-user>@uni-frankfurt.de</hrz-account-user>	
😸 Wallpaper			į
Screen Save		Cancel Instal	
🚊 Lock Screen			
💮 Touch ID & Pas			

Figure 24 macOS Install profile

• The installation is completed.



Figure 25 macOS Installation finished

Linux

Manuel version

Due to the amount of variations of GUIs and configuration files, we can only provide basic information, but unfortunately no in-depth support. We would still like to ask you to set up your device as safely as possible.

SSID	eduroam
Security type	WPA2-Enterprise
Encryption type	AES / CCMP
CA Certificate	USERTrust RSA Certification Authority
Outer / Anonymous Identity	eduroam@uni-frankfurt.de
Netzwork authentication	PEAP
Inner authentication	MS-CHAPv2

Username	<hrz-account-user></hrz-account-user>
Password	<hrz-account-password></hrz-account-password>

	firlefanz.server.uni-frankfurt.de
	scheppekraus.server.uni-frankfurt.de
RADIUS server	doppelterdohmen.server.uni-frankfurt.de
	schaedelharry.server.uni-frankfurt.de
	unsermannauseinoed.server.uni-frankfurt.de
	DNS:doppelterdohmen.server.uni-frankfurt.de
	DNS:firlefanz.server.uni-frankfurt.de
RADIUS server altSubjectName	DNS:schaedelharry.server.uni-frankfurt.de
	DNS:scheppekraus.server.uni-frankfurt.de
	DNS:unsermannauseinoed.server.uni-frankfurt.de

As you can see in the example of Ubuntu 18.04.2, not everything can be configured in it.

Wi-Fi Network Authentication Required 🛛 🛞		
	Authentication rec	uired by Wi-Fi network
0	Passwords or encryptic Fi network "eduroam".	on keys are required to access the Wi-
	Wi-Fi security:	WPA & WPA2 Enterprise 🔹
	Authentication:	Protected EAP (PEAP)
	Anonymous identity:	eduroam@uni-frankfurt.de
	Domain:	
	CA certificate:	globalroot_class_2.cer
	CA certificate password	d:
		 Show passwords No CA certificate is required
	PEAP version:	Automatic 🔹
	Inner authentication:	MSCHAPv2
	Username:	<hrz-account>@uni-frankfurt.de</hrz-account>
	Password:	<hrz-password></hrz-password>
		Show password
		Cancel Connect

Figure 26 Ubuntu manuel

iOS

Configuration file

• Download and run <u>Goethe-Uni-FFM-Wifi.mobileconfig</u>. From iOS 12.1.1 onward, the profile installation must be started manually via Settings.



Figure 27 iOS Download profile



Figure 28 iOS Profile downloaded



• Click "Install", enter if necessary the passcode, then click "Next" and "Install" to install the two certificates.



• Enter your user credentials:

User Name: <hr/>
<

Password: <HRZ-Password>





Figure 37 iOS FLUGHAFEN Password



Figure 39 iOS eduroam Password

Figure 38 iOS eduroam Userna	me
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q w e r t z u i o p a s d f g h j k l ☆ y x c v b n m ⊗

Leerzeichen

123 😅

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• The installation is complete, click "Done" to close it.



Figure 40 iOS Profile installed

Android

When setting up eduroam on an Android device, a distinction must be made as to whether the device is operated with Android 13 and lower or with Android 14 and higher. The geteduroam app does not yet support Android 14 at the time of writing this document.

Android 13 and lower (geteduroam)

Android 14 and higher / Manuel installation

Android 13 and lower (geteduroam)

• Install the <u>geteduroam</u> app from the Google Play Store and open it.



Figure 41 Play Store



Figure 42 Search geteduroam



Search for "Johann Wolfgang Goethe-Universität Frankfurt am Main" and select the • entry.



Figure 45 geteduroam search



Figure 46 geteduroam selection

• Enter your user credentials and save the networks:

User Name:	<hrz-account>@uni-frankfurt.de</hrz-account>
Password:	<hrz-password></hrz-password>







Figure 49 geteduroam erfolgreich

Manuel installation / Android 14

Before you start, note that this option is not as secure as the configuration with the geteduroam tool. You can't manually edit all the settings. However, it is currently the only way to set up eduroam for Android 14.

• First download the root certificate <u>USERTrust RSA Certification Authority</u> onto your Android device.

You can either follow the link above or use the following QR code. Hold the camera app via the QR code and at the bottem appears the ability to follow the same link as above. Download the certificate.



Figure 50 QR-Code USERTrust RSA Certification Authority



Figure 51 Download CA certificate

Figure 52 CA certificate downloaded

• Then the network can be configured via Settings → Network & Internet → WI-FI → Add network.

EAP method	PEAP
Phase 2 authentication	MS-CHAP v2
CA certificate	The newly downloaded certificate
Domain	uni-frankfurt.de
Identity	<hrz-account></hrz-account>
Anonymous Identity	eduroam
Password	<hrz-password></hrz-password>

To use the downloaded certificate, you must install it the first time. The name for the certificate can be freely chosen.

10:51 🖸 🗂 3G 🔟 🗎
← Add network
Network name
eduroam
Security
WPA/WPA2-Enterprise
EAP method
PEAP -
Phase 2 authentication
MSCHAPV2 -
CA certificate
Please select
laentity
😁 eduroam 🛛 edu roam 🛛 endurance 🌵
$q^{1} w^{2} e^{3} r^{4} t^{5} y^{6} u^{7} i^{8} o^{9} p^{0}$
a s d f g h j k l
☆ z x c v b n m ∞
?123 , 🕲 . 🗸
× =
Figure 53 Choose CA certificate

10:51 🛛							3G	
÷	Ad	d net	work	(
Netwo	rk nan	пе						
eduro	bam							
Securi	y							
WPA	/WPA	2-Ente	erpris	е				•
EAP m	ethod							
Plea	se se	lect						
Use :	syste	m cert	ificat	es				
Trus	t on F	irst Us	e					
Insta	ll cer	tificate	es					
Identit	,							
lucitut	,							
88 e	durc	am	ec	lu roa	am	end	uranc	e 🌒
	2	3	4	5	,6 I	7	: ⁸	° °
q v	/ e				y i			, b
а	s	d	f	g	h	j	k	Ι
仑	z	x	с	v	b	n	m	$\overline{\times}$
2102								
123	'	C					·	×
~			_		_			· <u>·</u> ··
Fig	ure	54	Ins	tall	CA	COT	tific	ato

10:51 🖪	3G 🖌 🗎	
\equiv Recent	Q :	← Add network
🖒 Large files 🚯 This	week	
BROWSE FILES IN OTHER APPS		Network name
۵		Security
Drive	3	Name this certificate
Recent files USERTrust_RSA_Cert 10:49 PM, 2.09 kB, PEM file	⊞ tification_Aut кя	Certificate name USERTrust RSA Certification Authority
		Cancel OK
		CA certificate
		Install certificates -
		Minimum TLS version
		TLS v1.0
		🤐 😂 GIF 🖹 🌩 🌵 🌷
		q ¹ w ² e ³ r ⁴ t ⁵ y ⁶ u ⁷ i ⁸ o ⁹ p
		asdfghjkl
		☆ z x c v b n m 🗵
		?123 , 🕲 . 🗸
		۰ <u>۱۱</u>
Figure 55 CA c	certificate file	Figure 56 CA certificate name

The final settings should look like this.

0:53 🖪 🗭	3G 🔺 🗎
← Add network	
Security	
WPA/WPA2-Enterprise	•
EAP method	
PEAP	•
Phase 2 authentication	
MSCHAPV2	•
CA certificate	
USERTrust RSA Certification Authority	•
Minimum TLS version	
TLS v1.2	•
Online Certificate Status	
Request certificate status	-
Domain	
uni-frankfurt.de	
Identity	
<hrz-account></hrz-account>	
Anonymous identity	
eduroam	
Password	
<hrz-password></hrz-password>	

Figure 57 eduroam configuration

FLUGHAFEN

The setup of eduroam and FLUGHAFEN are identical. Just replace the network name eduroam with FLUGAHFEN.

QR-Codes

Goethe-PEAP.exe



Figure 58 QR-Code Goehte-PEAP.exe

iOS- / Mac OSX- Configuration file



Figure 59 QR-Code mobileconfig

Android geteduroam



Figure 60 QR-Code geteduroam app