Access CELLS Eduroam with Windows 10:

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Why do I have to install the certificate?

With Eduroam you may be able to connect your laptop Wi-Fi with your **<user>@cells.es** to mainly any Research facility, or University, or Public Library, or even High Schools around the World.

Note: If you are not ALBA Staff, follow your own institution Eduroam instructions, NOT those ones!!!!

If you **belong to ALBA Staff**, to correctly connect from abroad to global Eduroam service, also running on ALBA Synchrotron, you **must install** the ALBA Certificate Authority (CA) for Eduroam in CELLS. **Your login and password security relay on this Certificate**. Do NOT trust Unknown Certificates, NEVER.

Why? Because once abroad ALBA, for a hacker, it's easy to install a rogue Wi-Fi hotspot telling the world "I am Eduroam" and getting your login and password if you connect. To avoid get tricked Eduroam uses Certificates, they will **warn you** if someone is cheating your connection. Install this certificate **before** going overseas, so you can easily check if you are really connecting to Eduroam or not.

Remember: In Eduroam, and Wi-Fi use ALWAYS secure connections: https / imaps / smtps / VPN.

Get certificate inside ALBA facilities

If you are on ALBA, you need any standard connections, **NOT GUEST!!!**, to get ALBA-Eduroam Certificate here (ALBA intranet access needed, from overseas use Workspace+Mozilla, see below):

https://www.cells.es/static/WiFI-Eduroam-ALBA-CA-up-to-2029.der

(sha256sum: d7ac8bccf00770dd95e6b80c946943996c53f21b3cb869e84e54e27c5383ef2b) with this hash you can verify the Certificate.

Get certificate from outside ALBA facilities

If you are ABROAD, including Guest network, we've a pair of procedure to get the ALBA Eduroam Certificate:

Connect Workspace (https://workspace.cells.es) and start up a remote browser there (ex:: Mozilla)

1. Save the certificate to your user "Downloads" on your browser Workspace

Or

2. Using the same Workspace browser, connect to your user https://webmail.cells.es and auto send the certificate attached to yourself.

Or

3. You may send it to your e-mail client via mobile.

Install the Certificate on your Laptop

Now you have the ALBA Eduroam certificate "WiFI-Eduroam-ALBA-CA-up-to-2029.der".

Install it on your laptop. In Windows is easy, plug and pray.

Always ask before opening this file

(Note: If old ALBA cert already exist you may need to clear old ALBA eduroam.)

Click over it (Fig.1) an "Open".

Open File - Security Warning Do you want to open this file?

1

1.

Click on "Install Certificate" (Fig.2) the "ALBA Eduroam Radius CA 802.1x".

	Certificate Certificate Certificate Information This CA Root certificate is not trusted. To enable trust, install this certificate in the Trusted Root Certification Authorities store.
Security Warning X	Issued to: ALBA Eduroam Radius CA 802.1x
want to open this file? Name:istrator\Desktop\WiFI-Eduroam-ALBA-CA-up-to-2023.der Publisher: Unknown Publisher Type: Security Certificate From: C:\Users\Administrator\Desktop\WiFI-Eduroam-ALBA-CA	Issued by: ALBA Eduroam Radius CA 802.1x Valid from 10/23/2017 to 10/22/2023
Open Cancel a ask before opening this file While files from the Internet can be useful, this file type can potentially harm your computer. If you do not trust the source, do not open this software. What's the risk?	Install Certificate Issuer Statement Learn more about certificates OK

Select "Local Machine" (Fig.3) and "Place all certificates" in the following store" (Fig.4) (Browse: select "**Trusted Root Certificate Authorities**")

	÷ ₽	Certificate Import Wizard
		Welcome to the Certificate Import Wizard
		This wizard helps you copy certificates, certificate trust lists, and certificate revocation lists from your disk to a certificate store.
		A certificate, which is issued by a certification authority, is a confirmation of your identity and contains information used to protect data or to establish secure network connections. A certificate store is the system area where certificates are kept.
		Store Location O Current User
		To continue, click Next.
3.		Sext Cancel
		×
	←	F Certificate Import Wizard
		Certificate Store Certificate stores are system areas where certificates are kept.
		Windows can automatically select a certificate store, or you can specify a location for the certificate.
		Automatically select the certificate store based on the type of certificate
		Place all certificates in the following store
		Trusted Root Certification Authorities Browse
		Next Cancel

4.

Let's finish (Fig. 5) the Certificate installation. Seems is not needed to reboot the Win10 laptop.

	÷ 🦻	Certificate Import Wizard			×				
		Completing the Certifi	cate Import Wizard						
		The certificate will be imported after	you dick Finish.						
		You have specified the following set	tings: To stad Poot Castification Autor	diffee					
		Content	Certificate	ines					
						Certifica	ate Import Wizard		×
							The import was s	uccessful.	
5				inish Cance	el		[OK	

Configure the CELLS Eduroam settings Once the certificate is already configured, on the main Windows 10 task bar, go to **below-right** corner search for Wi-Fi icon.

Click on it (Fig.6), then to "Network & Internet settings".



On "Status" window section **go down** until appears "Advanced network settings" section. Click on "Network and Sharing Center" (Fig.7)

7.	
Settings	- 🗆 X
යි Home	Status
Find a setting	<u>۵</u>
Network & Internet	Show available networks View the connection options around you.
🗇 Status	Advanced network settings
<i>i</i> ‴a WiFi	Change adapter options
Dial-up	View network adapters and change connection settings.
% VPN	Network and Sharing Centre For the networks that you connect to, decide what you want to share.
珍 Flight mode	A Notwork traubleshooter
⁽ⁱ li) Mobile hotspot	View hardware and connection properties
Proxy	Windows Firewall

On "Network and Sharing Centre", (Fig.8), click on "Set up a new connection or network"

8. Network and Sharing Centre			_	×
$\leftarrow \rightarrow$ \checkmark \uparrow 🛂 \rightarrow Control	Panel > Network and Internet > Network	and Sharing Centre 🗸 🖏		Q
Control Panel Home	View your basic network info	ormation and set up connections		
Change adapter settings	View your active networks			
Change advanced sharing settings	Public network	Access type: Internet Connections: J WiFi (
Media streaming options				
	Change your networking settings —			
	Set up a new connection or Set up a broadband, dial-up	network > or VPN connection, or set up a router or access point.		
	Troubleshoot problems Diagnose and repair networ	/k problems or get troubleshooting information.		

See also Internet Options Windows Defender Firewall On "set Up a Connection or Network" (Fig. 9) select "Manually connect to a wireless network"

9.				~
÷	🕎 Set Up a Connection or Network	_		^
	Choose a connection option			
	Connect to the Internet Set up a broadband or dial-up connection to the Internet.			
	Set up a new network Set up a new router or access point.			
	Manually connect to a wireless network Connect to a hidden network or create a new wireless profile.			
	Connect to a workplace Set up a dial-up or VPN connection to your workplace.			
		Next	Can	cel

On "Manually connect to a wireless network", (Fig. 10) set the Network Name "eduroam", Security "WPA2-Enterprise", Encryption tape should be automatically set to "AES" or similar. We recommend do NOT set "Start this connection automatically". Or WiFi will try to connect automatically to any "eduroam" it may found available. Better you connect by hand when needed.

10.					_		×
÷	👰 Manually connect to a v	vireless network					~
	Enter information for	the wireless net	work that ye	ou want to	add		
	Network name:	eduroam					
	Security type:	WPA2-Enterprise	~				
	Encryption type:	AES	~				
	Security Key:			Hide cha	racters		
	Start this connection	automatically network is not broadce	asting	w might be at	risk		
				,, <u>,</u>			
					Next	Can	cel

In our case "eduroam" **does not exist** on the laptop and we can carry on, but in the case it already exists, we'll have a problem. Then the laptop MUST forget the eduroam net. See below on section "How to forget any old, non-ALBA, non-working Eduroam on your WiFi"

Let's continue, click on "Change connection settings" (Fig.10)

10.

Manually connect to a wireless network

Successfully added eduroam

→ Change connection settings Open the connection properties so that I can change the settings.

Close

Х

Let's configure the whole ALBA-CELLS Eduroam on your laptop. On "eduroam Wireless Network Properties", on tab "Security" (Fig.12):

- 1. Security type "WPA2-Enterprise"
- 2. Encryption type "AES"

	eduroam Wireless Network Properties $$
	Connection
eduroam Wireless Network Properties X	Security type: WPA2-Enterprise Encryption type: AES
Connection Security Name: eduroam SSID: eduroam Network type: Access point Network availability: All users Connect automatically when this network is in range Look for other wireless networks while connected to this network Connect even if the network is not broadcasting its name (SSID)	Choose a network authentication method: Microsoft: Protected EAP (PEAP) Settings Remember my credentials for this connection each time I'm logged on
	Advanced settings
OK Cancel 12	OK Cancel

Click on "Settings" (Fig.12) will open a "Protected EAP Properties" (Fig.13).

After setting them, click on "Configure", will pop up "EAP MSCHAPv2 Properties" (Fig.14), do not select, just Ok. And OK again on "Protected PEAP Properties":

- 1. Set: Verify the server identity....
- 2. Connect to these servers: write down "eduradius.cells.es"
- 3. On Trusted Root Certs : Select "ALBA Eduroam Radius CA 802.1x"
- 4. On notifications: "Tell user if the server's identity can't be verified"
- 5. On "Select Authentication Method: "Secure password (EAP-MSCHAPv2)
- 6. Set: Enable Fast Reconnect
- 7. On "Configure" (Fig.14), set nothing, just ok.
- 8. Ok, and exit to the last step.

	Protected EAP Properties	×
	When connecting:	
	Verify the server's identity by validating the certificate	
	Connect to these servers (examples:srv1;srv2;.*srv3\.com):	
	eduradius.cells.es	
	Trusted Root Certification Authorities:	
	AAA Certificate Services	
	AffirmTrust Commercial	
	Baltimore Cyber Trust Root	
	Tell user if the server's identity can't be verified	*
	Select Authentication Method: Secured password (EAP-MSCHAP v2)	
	Enable Fast Reconnect	
	Disconnect if server does not present cryptobinding TLV	
13	OK Cancel	
10.		

On "Configure" (Fig.14) do set anything. Just Ok.

	EAP MSCHAPv2 Properties X	:
	When connecting:	-
	Automatically use my Windows log-on name and password (and domain if any).	
	OK Cancel	
14.		

On "eduroam Wireless Network Properties" (Fig.15), click "Advanced Settings". On "Advanced Settings", tab "802.1x settings" choose "User authentication". And OK.

15.



Try to connect first al ALBA, if possible, to check the whole settings.

When WiFI "Eduroam" network is available, try to connect.

Windows shall ask you (Fig.16) ALBA login & a password.

Remember to use your institution LOGIN@YOUR-DOMAIN.

If you are CELLS staff, then should be like jmartorell@cells.es.

Windows Security	The a Reflection		X
Network An Please enter us	uthentication er credentials		
	jmartorell@cells.es		
		ОК Са	ancel

Note: This seems an e-mail, but is "your login" @ "your institution".

See bellow to FORGET any OLD ALBA or NON-ALBA Eduroam.

How to forget any old, non-ALBA, non-working Eduroam on your WiFi

Imagine you want to connect with CELLS Eduroam, but you already have, UAB or UPC one installed, or your Eduroam CELLS is not working fine anymore and you will want to have a new try. Note: *** Multiple Eduroam configurations are not compatible, so It can only be one. ***

In this case (Fig.17), the "eduroam" net was already set and is NOT correctly configured, we need to "Forget" eduroam Wifi

17.			_		×
÷	Manually connect to a wireless network				
	A network called eduroam already exists				
	 → Use the existing network Open the "Connect to a network" dialogue so I can connect. → Choose a different name Return to the setup page and choose a different name.)			
				Car	icel

To forget a wrong/ not CELLS, or old ALBA, configured wifi eduroam (Fig.18):

- 1. Click the Wi-Fi button from the bottom-right corner of the taskbar.
- 2. Click Network & Internet settings.
- 3. Select "Manage known networks"

18.						
← Se	tings	- 🗆 X				
命 Hon	ie	WiFi				
Find a s	etting $ ho$	WiFi				
Network & Internet On						
		POPOT4-5G				
🖨 Stati	IS	Connected, secured				
	_	Show available networks				
ín, WiFi		Hardware properties				
📅 Dial-	up	Manage known networks				
% VPN						
• • • • • •		Random hardware addresses				
	t mode	Random nardware addresses				
-v~ riigi	tinode	Use random hardware addresses to make it harder for people to				
(գ) Mob	ile hotspot	track your location when you connect to different WiFi networks. This setting applies to new connections.				
Prox	4	Lise random bardware addresses				
		Off Off				

Once the wrong/not CELLS "eduroam" is forgotten (Fig.19), begin again from WiFi icon:

← Settings	
ை WiFi	
Manage known netw	works
+ Add a new network	k
Search this list	م
Sort by: Preferred order	✓ Filter by: All ✓
eduroam	
19.	Properties Forget

From this point on, follow the standard configuration