



# eduroam Webinar

Theme: Why eduroam?



# Outline

- ❖ What is eduroam?
- ❖ Why eduroam?
- ❖ Our Journey
- ❖ eduroam Deployments
- ❖ On Campus eduroam
- ❖ Managed IdP
- ❖ Metro and Homelinks eduroam
- ❖ eduroam OTG
- ❖ Connecting to eduroam



## Are you a **Student,** **Researcher** or **University Staff?**

Covid-19 has pushed us off campus, and **reliable** off-campus connectivity is a problem.

**eduroam has now gone beyond your campus borders.**

Look out for the **eduroam WI-FI** network in your neighborhood.

**Free, simple, seamless** connection at your convenience.



[www.renu.ac.ug](http://www.renu.ac.ug)

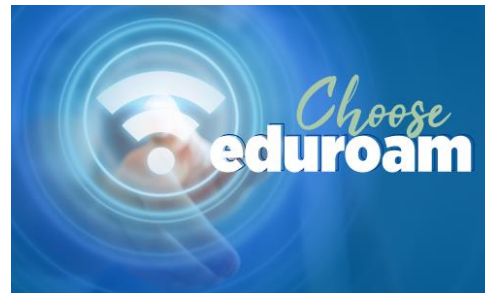
**SECURE & TRUSTED**



# What is eduroam?

**eduroam**(education roaming)

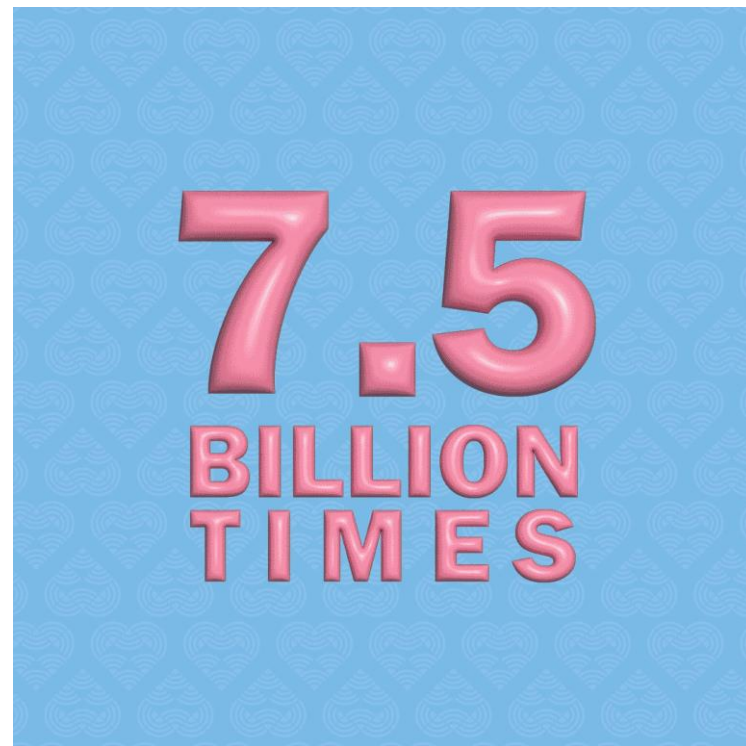
Is a secure, worldwide roaming Wi-Fi internet access service developed for the research and education community.



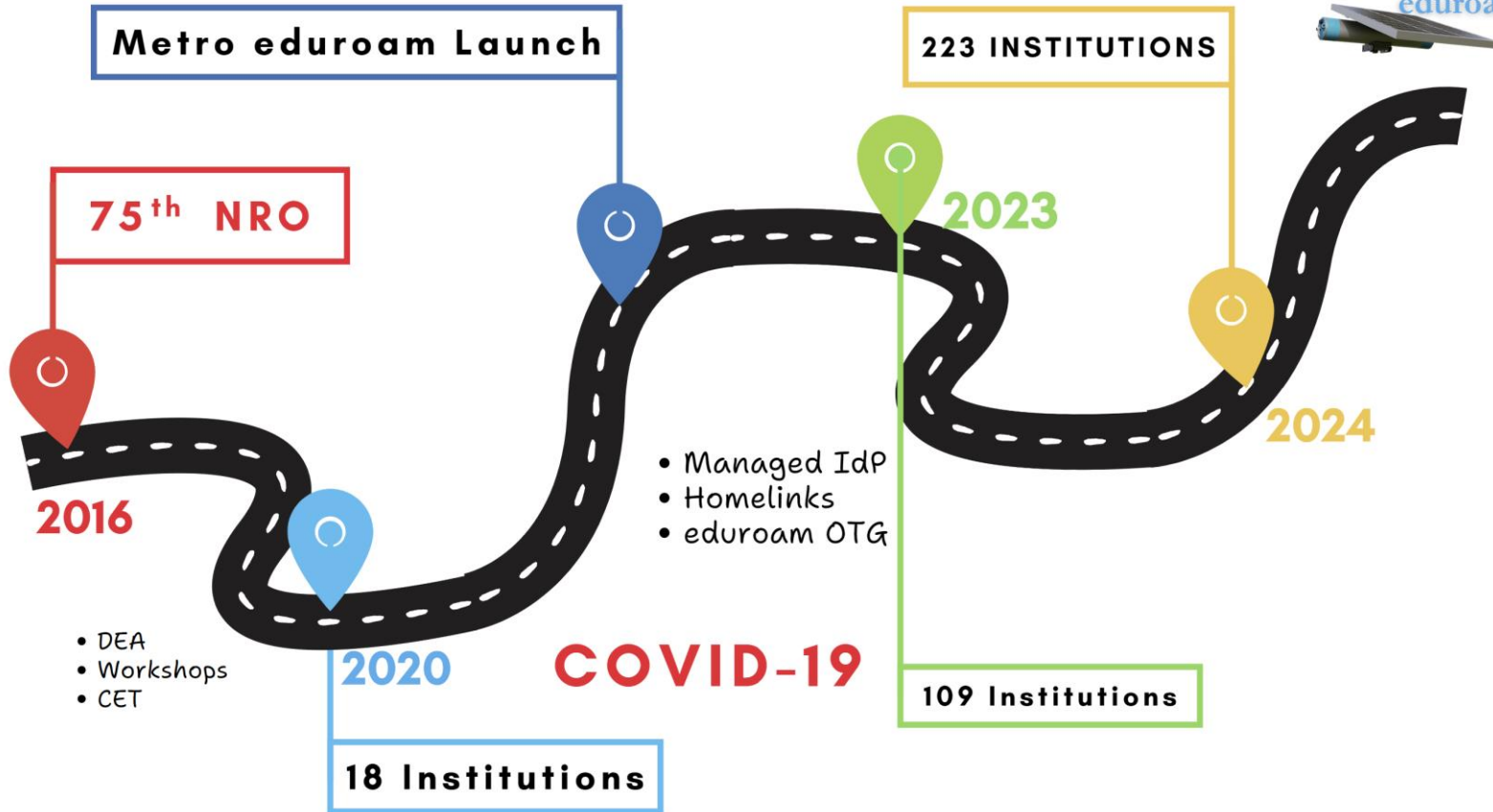
# Why eduroam?

- ❖ Global access to the Internet
- ❖ Free!
- ❖ Ease of Use
- ❖ Secure Encrypted Connection

**7.5 Bn Successful User  
Logins Recorded In 2023!  
RENU – 17,549,184**



# Our Journey



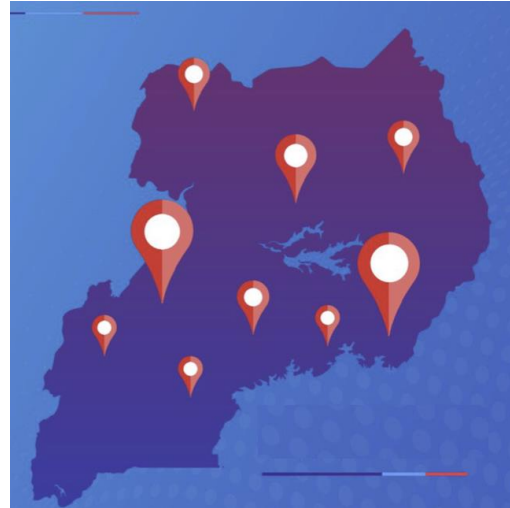
# eduroam Deployments



eduroam OTG



Homelinks



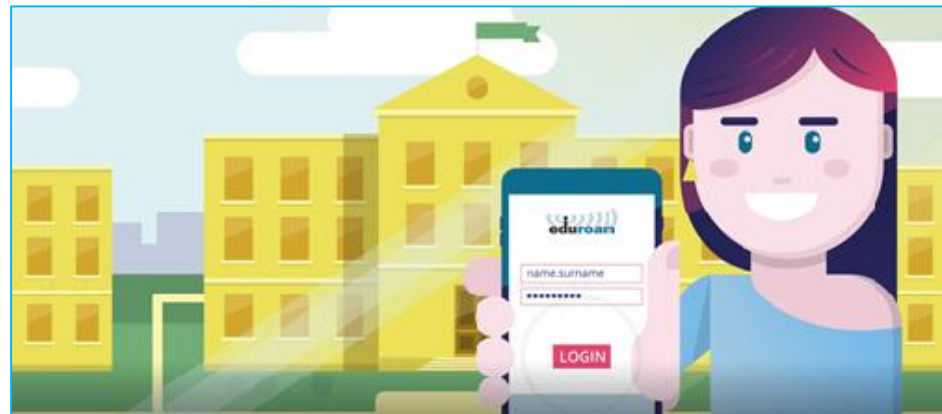
Metro eduroam



On Campus

# On Campus eduroam

- ❖ Need for technical capacity with Linux knowledge
- ❖ RADIUS Server Capacity/Setup
- ❖ Existing/Setup new User Database
- ❖ Public IP Addressing
- ❖ Open ports: 1812 & 1813 (196.43.185.12)
- ❖ Technical Know how of the Institution's network
- ❖ Access Points (WPA Enterprise) (preferably with a controller in place)





# On Campus eduroam Requirements

You need a source of identity

- ❖ ActiveDirectory
- ❖ eDirectory
- ❖ OpenLDAP

You need a RADIUS server

- ❖ Windows Network Policy Server (NPS)
- ❖ FreeRADIUS
- ❖ Clearpass

**You need your NRO to route your realm**



# On Campus eduroam Management

## FreeRADIUS Management

- ❖ Adding new clients / Access Points (Use the clients.conf file)
- ❖ Adding sub domains
- ❖ RADIUS Debug Mode.



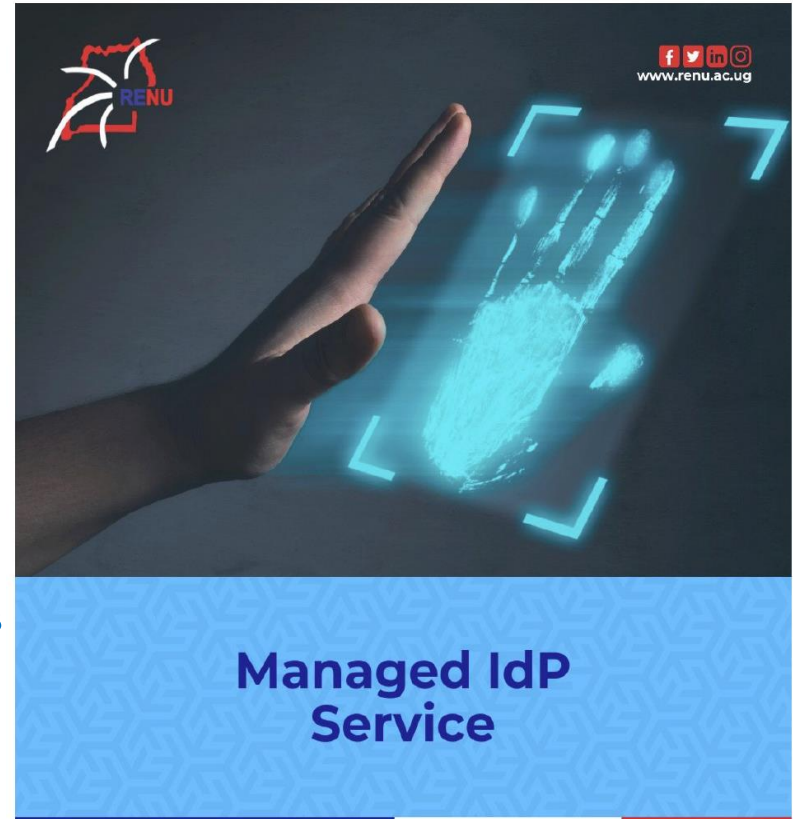


# On Campus eduroam - Demo

# Managed Identity Provider (IdP)



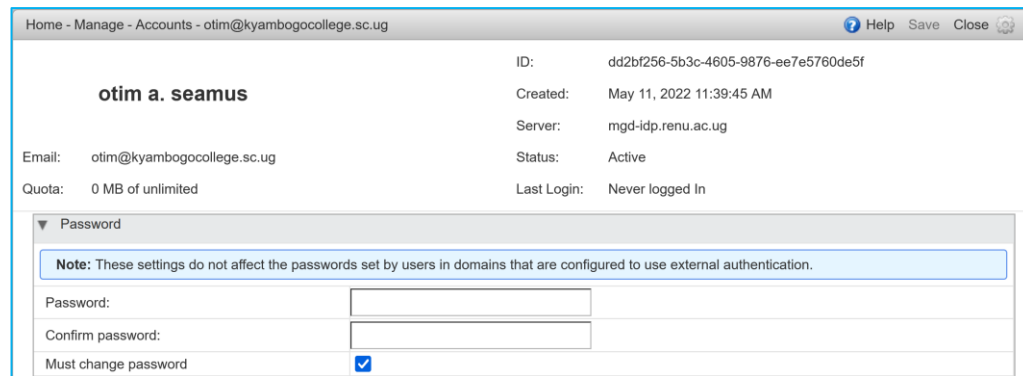
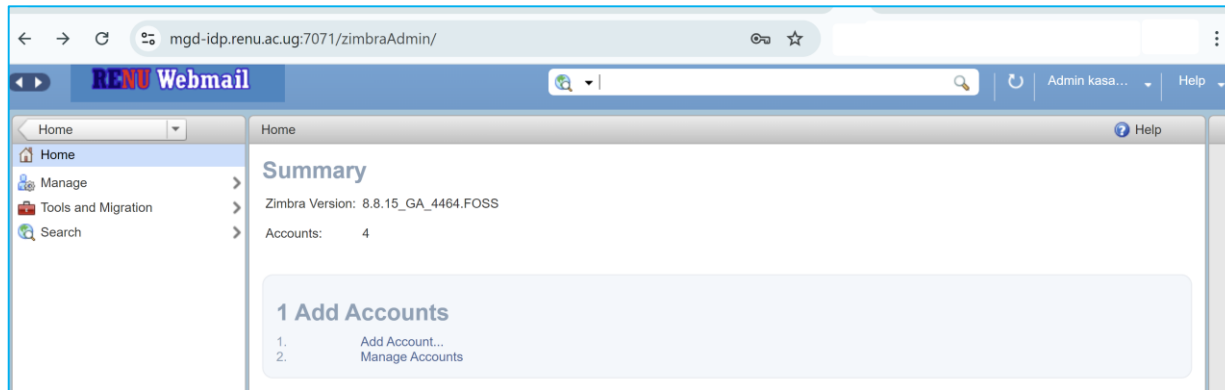
- ❖ Outsourcing technical capacity
- ❖ No need to hire a technical resource
- ❖ Only focus on your users
- ❖ Short setup duration
- ❖ Web-based Interface
- ❖ Designed for RENU member institutions



# Managed IdP - Administration



- ❖ Creating user accounts
- ❖ Resetting user passwords
- ❖ Deleting users
- ❖ geteduroam (Managed IdP-1 & Managed IdP-2)
- ❖ Change of Administrators (Resetting accounts)



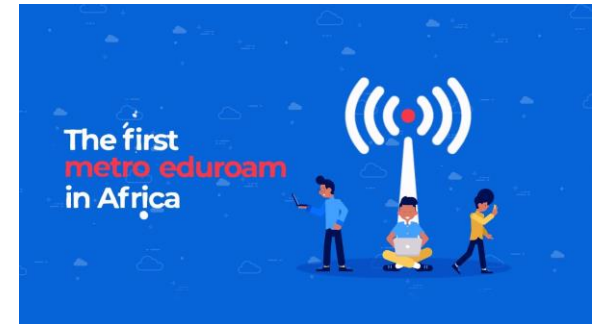
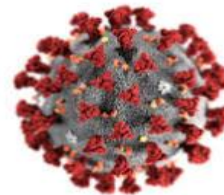


# Managed IdP - Demo

# Metro & Home eduroam



- ❖ eduroam locked inside Campus Network.
- ❖ In-country lock-down boosted Metro eduroam need.
- ❖ Deployment Strategies:-
  - ❑ Leverage existing metro wireless deployments.
  - ❑ Awareness Campaigns.
  - ❑ Institutional staff residences.
  - ❑ Managed IdP service
  - ❑ On The Go



# Metro & Home eduroam



**Metro  
eduroam**  
at One Year!

**What the  
Users Say**



**Emmanuella Faida**  
Economics and Statistics Student,  
UCU

My experience with Metro eduroam has been good. The most interesting one is a time I was moving around with friends looking for internship placements in Kampala and passed by Olympia Hostel in Makerere. As I was at the hostel, I noticed a lot of notifications on my phone yet I had not loaded data. I was intrigued to check and later found that there was eduroam, the same Wi-Fi we usually use at the university campus. I decided to stay longer at the hostel so I could first respond to all my emails, and WhatsApp and Facebook messages. Later, I learnt that there were other eduroam Wi-Fi spots at Kibuuka Mixed S.S in Nansana and KCCA Offices in Nabweru which are both closer to where I stay. Now, whenever I have a lot of stuff to do that require internet, I visit any of the spots. I am grateful to RENU for this service.



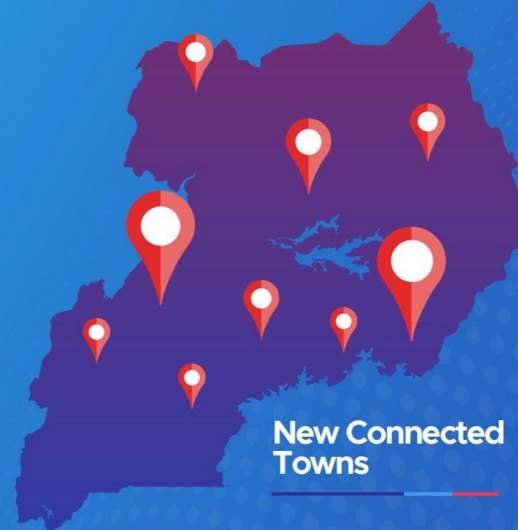
[www.renu.ac.ug](http://www.renu.ac.ug)



**Metro eduroam is  
Now Upcountry!**



- Arua
- Masaka
- Fort Portal
- Kasese
- Gulu
- Mbale
- Tororo
- Malaba
- Soroti
- Jinja
- Mbarara
- Nakivale
- Ibanda
- Itendero
- Kabwohe
- Iganga
- Lira
- Hoima



**New Connected  
Towns**

Free and Secure  
Off-campus Connectivity



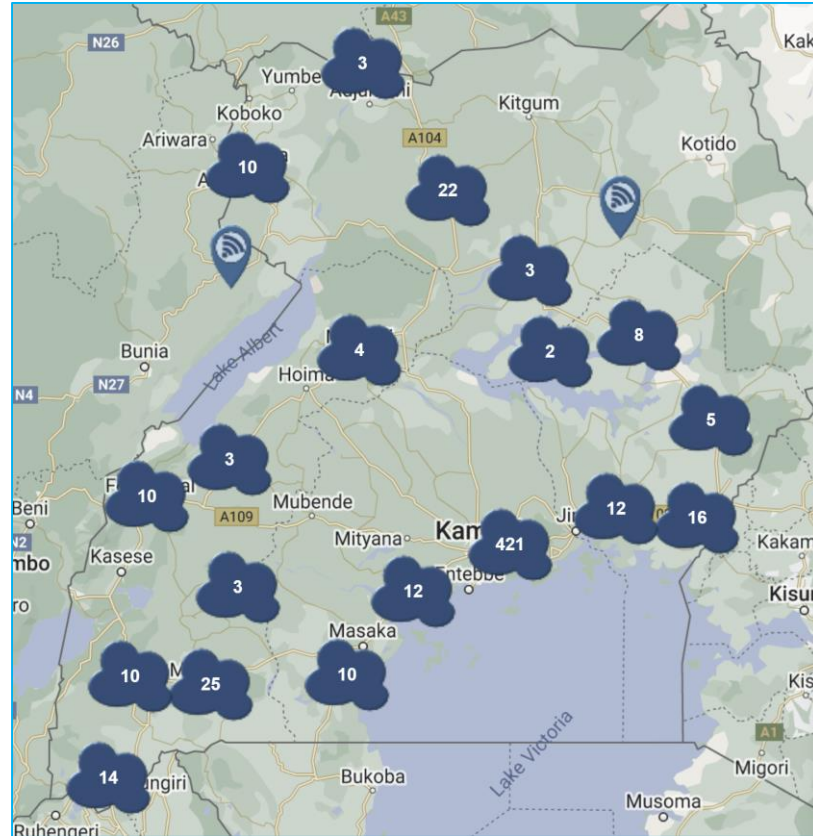
[www.renu.ac.ug](http://www.renu.ac.ug)

# Metro eduroam hotspots



eduroam Map

<https://eduroam.renu.ac.ug>





# The Future – Metro eduroam



- ❖ eduroam hotspots at University Hostels
- ❖ eduroam Upcountry
- ❖ Better User experience
- ❖ Solar powered routers

500+ Access  
Locations

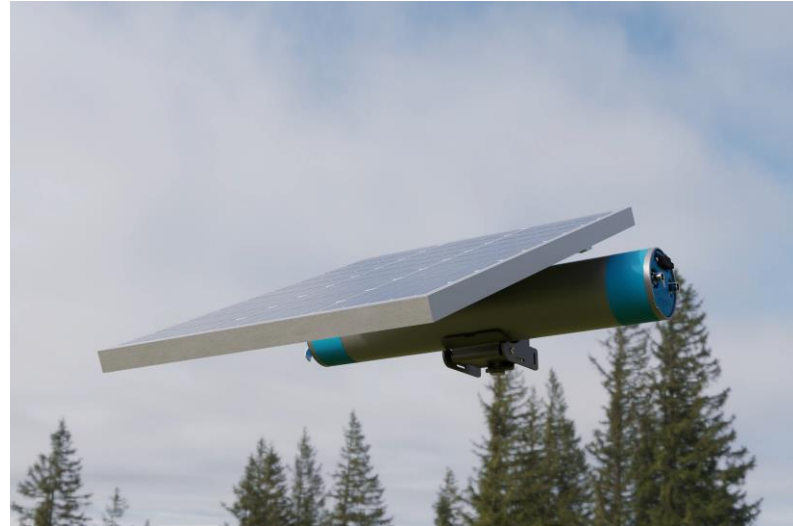


# Why choose our routers?



Our solar-powered routers are perfect for off-grid locations, ensuring that even the most remote areas have access to the Internet, education, and communication.

- Sustainability
- Network Performance
- Modern Technology
- Disaster Relief





**eduroam on the Go!**  
Anytime | Anywhere



The image features a 3D rendered character of a man with a goatee and glasses, wearing a light blue polo shirt. He is holding a white eduroam card. Above his head is a large white Wi-Fi symbol. The background is a bright blue color with a faint world map outline. In the top left corner is the RENU logo, and in the top right corner is the eduroam logo.



# What is eduroam on the Go?



- ❖ Pocket size routing device.
- ❖ Broadcasting “eduroam” SSID.
- ❖ Capable of WPA2 enterprise authentication.
- ❖ Implemented on cellular provider network.
- ❖ Access to internet Anytime, Anywhere.



**IEEE 802.1X**

# Why eduroam on the Go?



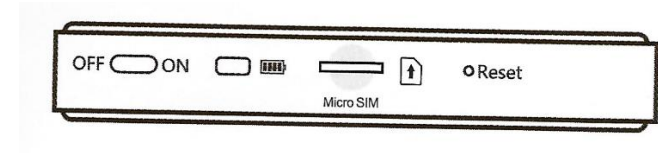
- ❖ Metro eduroam at fixed hotspots outside boundaries.
- ❖ Home eduroam - an extension of eduroam **but still fixed at staff residences**
- ❖ Covers the connectivity gaps and offers flexibility.
- ❖ Maximum number of connected devices – **16**

# eduroam on the Go - Best Practices



## ❖ Device Charging

- ❑ Charging power ranges (Not higher than 12V)
- ❑ Charge device overnight.
- ❑ Avoid depleting the device battery
- ❑ Turn off the device to charge
- ❑ Avoid using device while in power (to prevent issues like bloating)



## ❖ Avoid resetting the device

## ❖ Do not remove the sim card.

# eduroam on the Go Device Replacement Procedure



## Policy on device replacement (Stolen)

- ❑ Ensure to report to Police when the device is stolen to obtain a police letter.
- ❑ Contact RENU through our NOC ([noc@renu.ac.ug](mailto:noc@renu.ac.ug)) about the incident.
- ❑ When communicating to NOC ensure to attach the police letter.
- ❑ A small substantial fee will be attached to device replacement.

## Policy on device replacement (Damage)

- ❑ In case of device damage, contact the NOC team about this.
- ❑ Our networks team will check and evaluate the device to find out the cause of this damage.
- ❑ In case of user negligence, the responsible institution will pay for the device replacement.
- ❑ In case it's a fault in the device, RENU will replace the device at no cost.

# eduroam on the Go Device Replacement Procedure



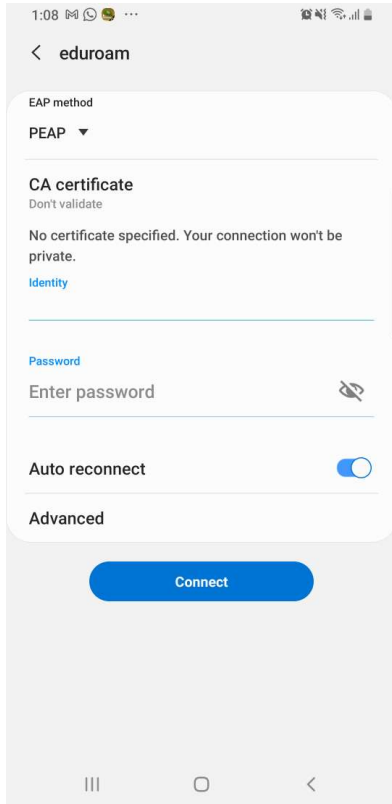
- ❖ **Policy on device replacement regarding promotional devices.**
  - ❑ In case of device damage, contact the NOC team about this.
  - ❑ Our networks team will check and evaluate the device to find out the cause of this damage.
  - ❑ In case the device was offered to the institution on promotional terms and it incurs any damage the institution is liable to pay for the damage.



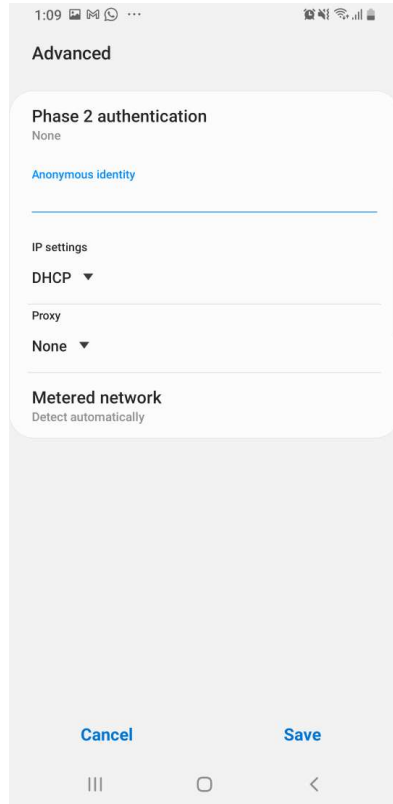
# How to connect to eduroam



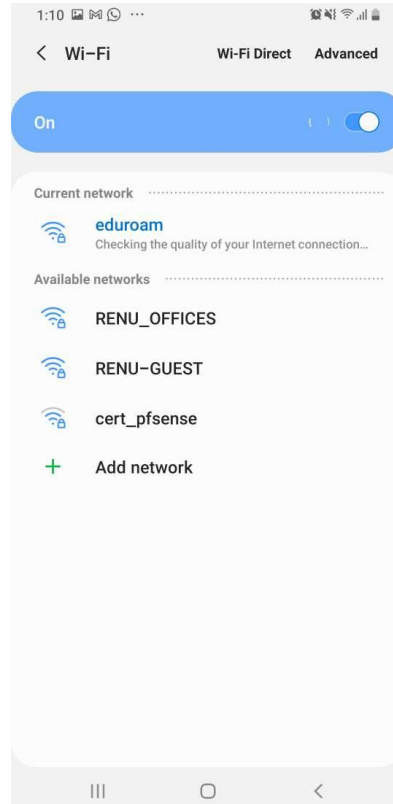
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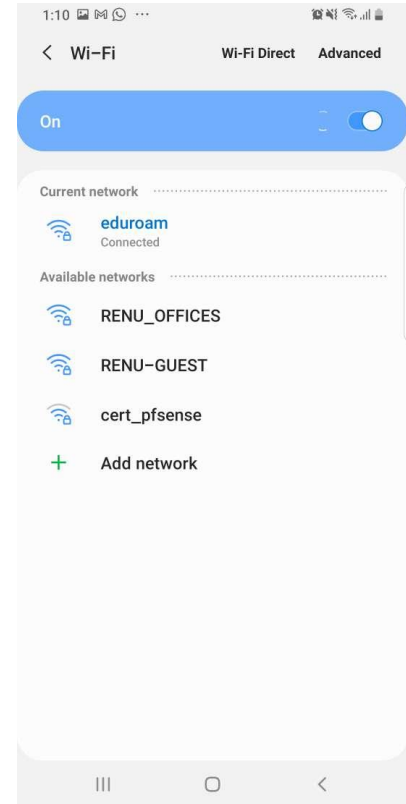
2



3



4



# eduroam CAT



1

1:03 PM

cat.eduroam.org

CAT was recently upgraded to version 2.1.1. Please report any

**eduroam**  
Configuration Assistant Tool

Welcome to eduroam CAT

**Connect your device to eduroam®**

eduroam® provides access to thousands of Wi-Fi hotspots around the world, free of charge. [Learn more](#)

Click here to download your eduroam® installer

2

1:04 PM

cat.eduroam.org

Infectious Diseases Research Collaboration  
Uganda 1 km

Research and Education Network for Uganda  
Uganda 1 km

Joint Clinical Research Centre  
Uganda 9 km

Uganda Virus Research Institute  
Uganda 30 km

MRC/UVRI and LSHTM Uganda Research Unit  
Uganda 30 km

Resear

Resear Research Researching

q w e r t y u i o p

a s d f g h j k l

z x c v b n m

?123 , .

3

1:04 PM

cat.eduroam.org

Research and Education Network for Uganda

**If you encounter problems, then you can obtain direct assistance from your organisation at:**  
WWW: <https://www.renu.ac.ug/>  
email: [support@renu.ac.ug](mailto:support@renu.ac.ug)

This entry was last updated at: 2019-04-26 16:17:09

**Download your installer for Android 8 and higher**

eduroam

Before you proceed with installation on Android systems, please make sure that you have installed the geteduroam application. This application is available from these sites: [Google Play](#), [Huawei AppGallery](#), as [local download](#) and will use the configuration file downloaded from CAT to create all necessary settings.

[See more installer information](#)

[Choose another installer to download](#)

© 2011-2022

4

1:04 PM

cat.eduroam.org

File downloaded (79.38 KB) cat.eduroam.org

**If you encounter problems, then you can obtain direct assistance from your organisation at:**  
WWW: <https://www.renu.ac.ug/>  
email: [support@renu.ac.ug](mailto:support@renu.ac.ug)

This entry was last updated at: 2019-04-26 16:17:09

**Welcome aboard the eduroam® user community!**

Your download will start shortly. In case of problems with the automatic download please use this direct [link](#).

Dear user from Research and Education Network for Uganda,

We would like to warmly welcome you among the several million users of eduroam®! From now on, you will be able to use internet access resources on thousands of universities, research centres and other places all over the globe. All of this completely free of charge!

Now that you have downloaded and installed a client configurator, all you need to do is find an eduroam® hotspot in your vicinity and enter your user credentials (this is our fancy name for 'username and password' or 'personal certificate') - and be online!

Should you have any problems using this service, please always contact the helpdesk of Research and Education Network for Uganda. They will diagnose the problem and help you out. You can

5

1:01 PM

geteduroam

Waiting for user credentials...

**Login required**

Please enter your username and password.

Username

Password

Cancel Login

eduroam CAT Release 2.1.1

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GEANT

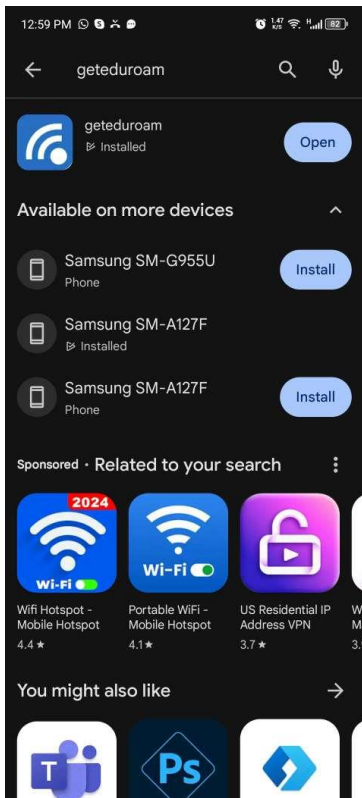
European Commission Communications Networks, Content and Technology

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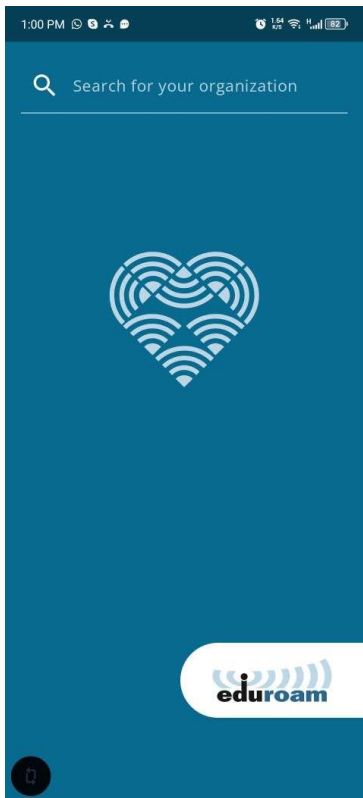
# geteduroam



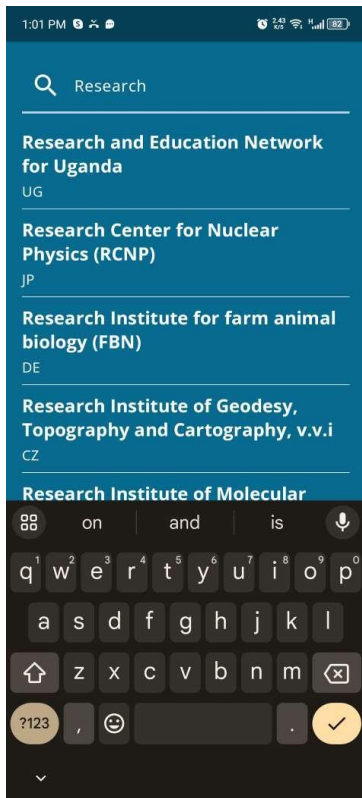
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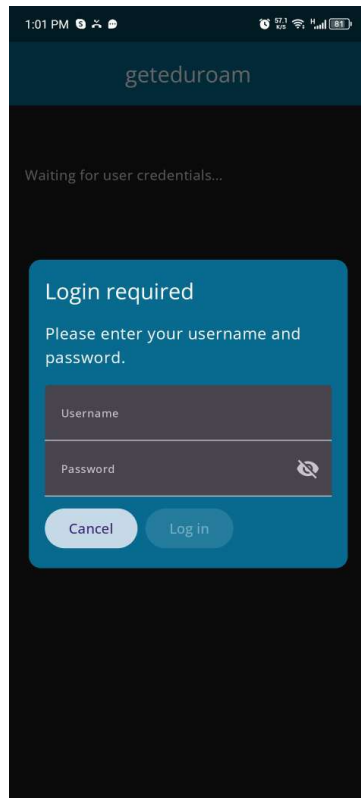
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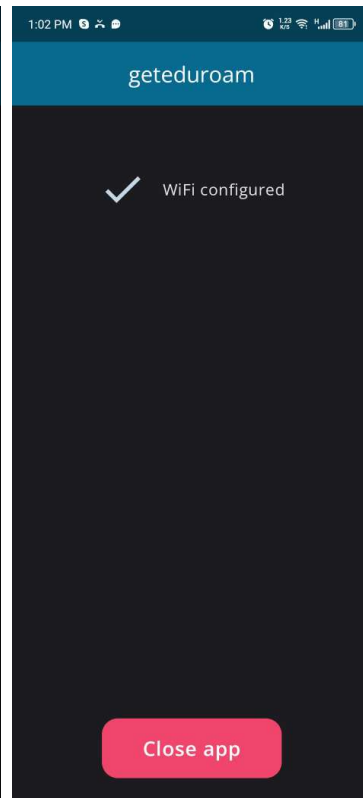
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5



# Troubleshooting eduroam



## Problems connecting to WiFi – Is eduroam listed as an SSID?

- ❖ Check that WiFi is enabled
- ❖ Try switching flight mode on and then off.
- ❖ Restart your device.

## Problems connecting to eduroam

- ❖ Android users – recommended to use geteduroam
- ❖ Check username format – user@institution.ac.ug
- ❖ If you have tried connecting before, forget the eduroam network.
- ❖ Connected but no internet (security checks, AP is far, weak signal)



# eduroam on the Go Testimonial





# Thank You!

<https://renu.ac.ug>