

# Lanka Education and Research Network

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## Eduroam and RADIUS

Identity Access Federation for R&E Institutes of Sri Lanka

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# Introduction to eduroam

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## **eduroam** (Education Roaming)

- **a global Wi-Fi network service**
- **for the international research and education community**
- **Provides secure and seamless internet connectivity** for users at participating institutions worldwide

# How eduroam works

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## ❖ Federated Authentication:

Users authenticate with their **home institution credentials** via a federated RADIUS infrastructure.

## ❖ Seamless Connectivity:

Users get network access at any eduroam-enabled institution without needing to configure new credentials.

# Benefits for eduroam

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## ❖ **Convenience:**

Single set of credentials for access at multiple locations.

## ❖ **Security:**

Encrypted connections using WPA2-Enterprise.

## ❖ **Mobility:**

Ideal for students, researchers, and staff traveling between institutions.

# Introduction to RADIUS

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- ❖ **RADIUS** (Remote Authentication Dial-In User Service) is a **networking protocol** that provides **centralized authentication, authorization, and accounting (AAA) management** for users who connect and use a network service.
- ❖ Ensures **secure authentication** of users accessing the network.

# How RADIUS works

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## ❖ Authentication Process:

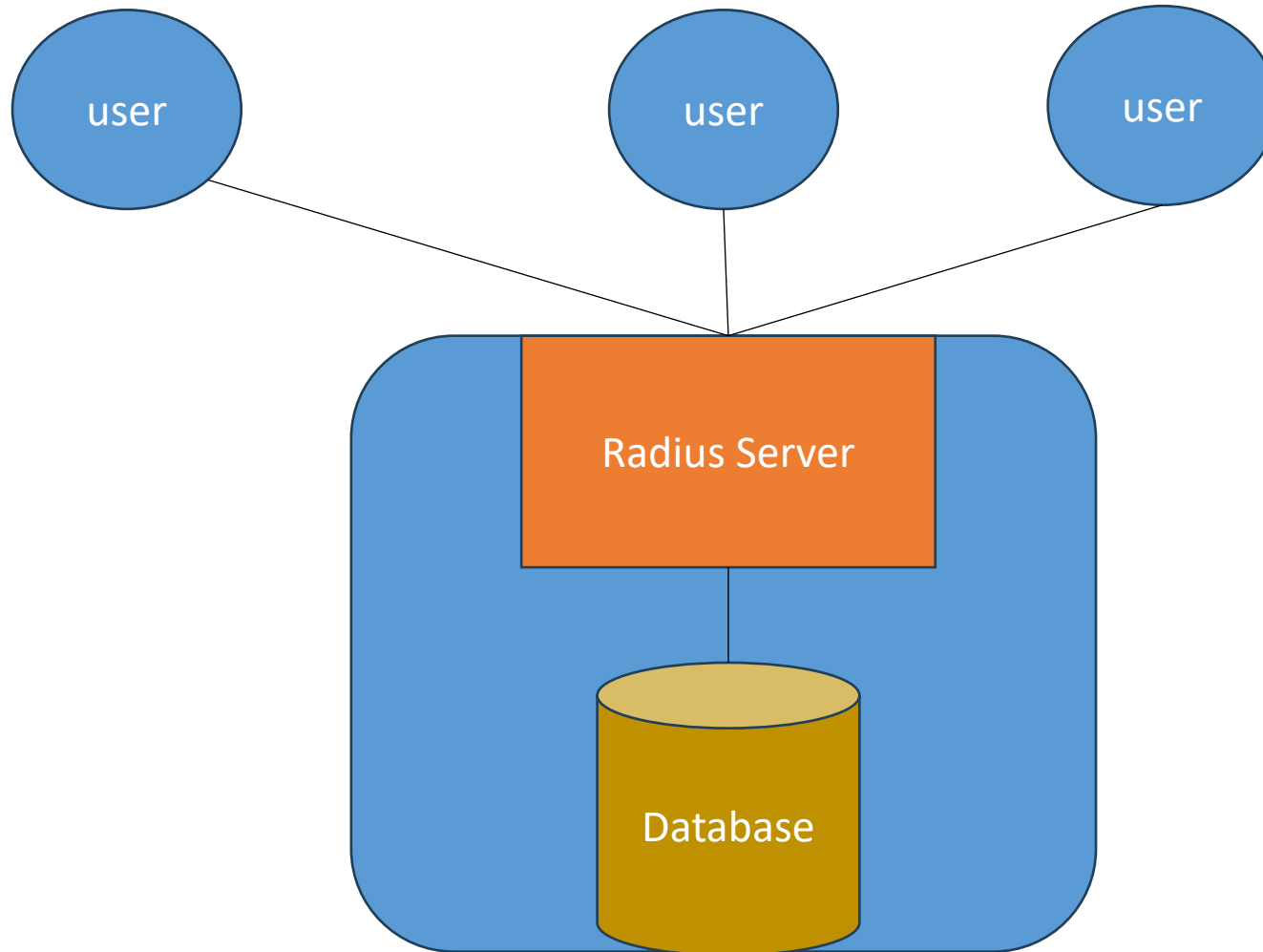
User credentials are sent to a RADIUS server, which verifies the credentials against a database and grants access(in the institute).

## ❖ Components:

- RADIUS Client: Typically a network access server (NAS) that receives connection requests.
- RADIUS Server: Authenticates the requests.
- User Database: Stores user credentials.

# How RADIUS works

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# Benefits of RADIUS

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- ❖ **Centralized Authentication:**  
Simplifies management of user authentication.
- ❖ **Scalability:**  
Supports a large number of users and devices.
- ❖ **Flexibility:**  
Can integrate with various user databases and authentication methods.



# Integration of eduroam and RADIUS

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## ❖ **RADIUS Hierarchy:**

eduroam relies on a hierarchy of RADIUS servers to authenticate users across institutions.

## ❖ **Federated Structure:**

National RADIUS servers forward authentication requests to the appropriate home institution's RADIUS server.

# Setting up eduroam with Radius

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## ❖ Configuration Steps:

- Set up RADIUS servers and clients.
- Configure access points to forward requests to the RADIUS server.
- Ensure correct federation with national and international RADIUS hierarchies.

## ❖ User Configuration:

- Users configure the devices with the provided eduroam credentials by the institute.

# Security features of eduroam and RADIUS

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- ❖ Encryption:  
WPA2-Enterprise ensures secure communication.
- ❖ Authentication Protocols:  
Uses EAP (Extensible Authentication Protocol) methods such as EAP-TLS, EAP-PEAP, and EAP-TTLS.
- ❖ Data Privacy:  
User credentials are only verified by the home institution, maintaining privacy.

# Lanka Education And Research Network

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Thank you  
Any questions?



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