

Institute Level Radius Server (FreeRadius)

STEPS TO CONFIGURE

➤ Installing Required Packages

```
#sudo apt update  
#sudo apt install freeradius freeradius-mysql freeradius-ldap mysql-server -y
```

➤ Setting up the MySQL Backend

a) Initialize MySQL Radius Database

```
sudo mysql -u root -p  
CREATE DATABASE radius;  
CREATE USER 'radius'@'localhost' IDENTIFIED BY 'YOUR_SECURE_PASSWORD';  
GRANT ALL PRIVILEGES ON radius.* TO 'radius'@'localhost';  
FLUSH PRIVILEGES;  
EXIT;
```

b) Import FreeRADIUS Schema

```
sudo cat /etc/freeradius/3.0/mods-config/sql/main/mysql/schema.sql |  
sudo mysql -u root -p radius
```

➤ Configure FreeRADIUS to Use MySQL

a) Enable the SQL module:

- ```
sudo ln -s /etc/freeradius/3.0/mods-available/sql /etc/freeradius/3.0/mods-enabled/
```
- Edit the SQL config:  

```
sudo nano /etc/freeradius/3.0/mods-available/sql
```

Ensure the following:

```
dialect = "mysql"
driver = "rlm_sql_${dialect}"
Set your database credentials: text
server = "localhost"
port = 3306
login = "radius"
password = "YOUR_SECURE_PASSWORD"
radius_db = "radius"
```
  - Uncomment (read\_clients = yes) and (client\_table = "nas").
  - Save and exit.

### **b) Change file permissions and restart FreeRADIUS:**

```
sudo chgrp -h freerad /etc/freeradius/3.0/mods-available/sql
sudo chown -R freerad:freerad /etc/freeradius/3.0/mods-enabled/sql
sudo systemctl restart freeradius
```

## ➤ **Configure Clients Configuration :**

```
/etc/freeradius/3.0/clients.conf
client access_point {
 ipaddr = 192.168.0.10 (LAN IP)
 secret = your_shared_secret
 shortname = accesspoint
 nastype = other
}
```

## ➤ **Configure Proxy Configuration :**

```
/etc/freeradius/3.0/proxy.conf
realm "yourinstitution.edu" {
 authhost = LOCAL
}
realm default {
 authhost = ip.of.national.radius.server
 secret = your_shared_secret
 shortname = nationalradius
 nostrip
}
```

## ➤ **Add a Test User to the RADIUS SQL Database**

```
sudo mysql -u root -p
USE radius;
INSERT INTO radcheck (username, attribute, op, value)
VALUES ('test@yourdomain.edu', 'Cleartext-Password', '!=', 'testpass');
```

**Example :-**

```
USE radius;
INSERT INTO radcheck (username, attribute, op, value)
VALUES ('radius', 'Cleartext-Password', '!=', 'radius');
```

## ➤ **Run (to test) :-**

```
radtest radius radius 127.0.0.1 0 radius
radtest <USERNAME> <PASSWORD> 127.0.0.1 0 <SHARED_SECRET>
```