# OPENVPN

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# OpenVPN

Radius

## 1. Overview

This document explains how to enable OpenOTP authentication with Radius Bridge and OpenVPN.

The advantage of integrating RadiusBridge with OpenVPN is :

- Secure access with `MFA`.
- Authentication of Ldap users via OpenVPN client.

## 2. WebADM/OpenOTP/Radius Bridge

For this recipe, you will need to have WebADM/OpenOTP installed and configured. Please, refer to WebADM Installation Guide and WebADM Manual to do it. You have also to install our Radius Bridge product on your WebADM server(s).

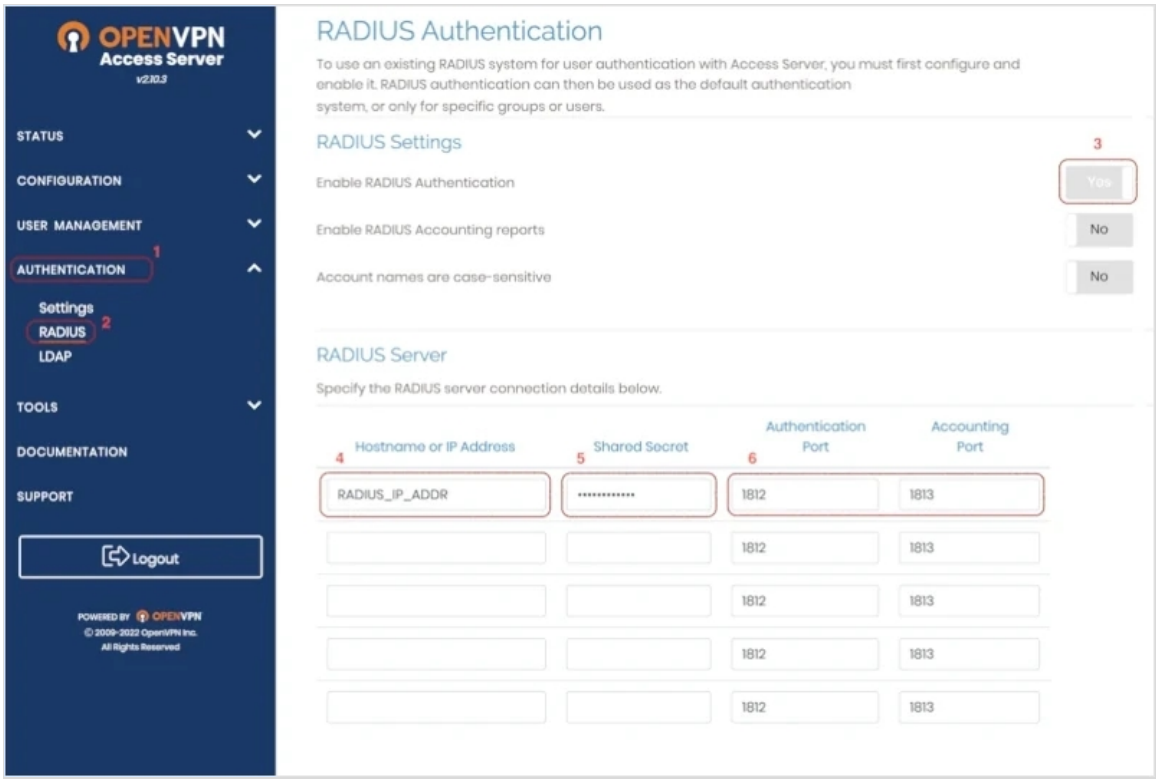
## 3. Register your OpenVPN in RadiusBridge

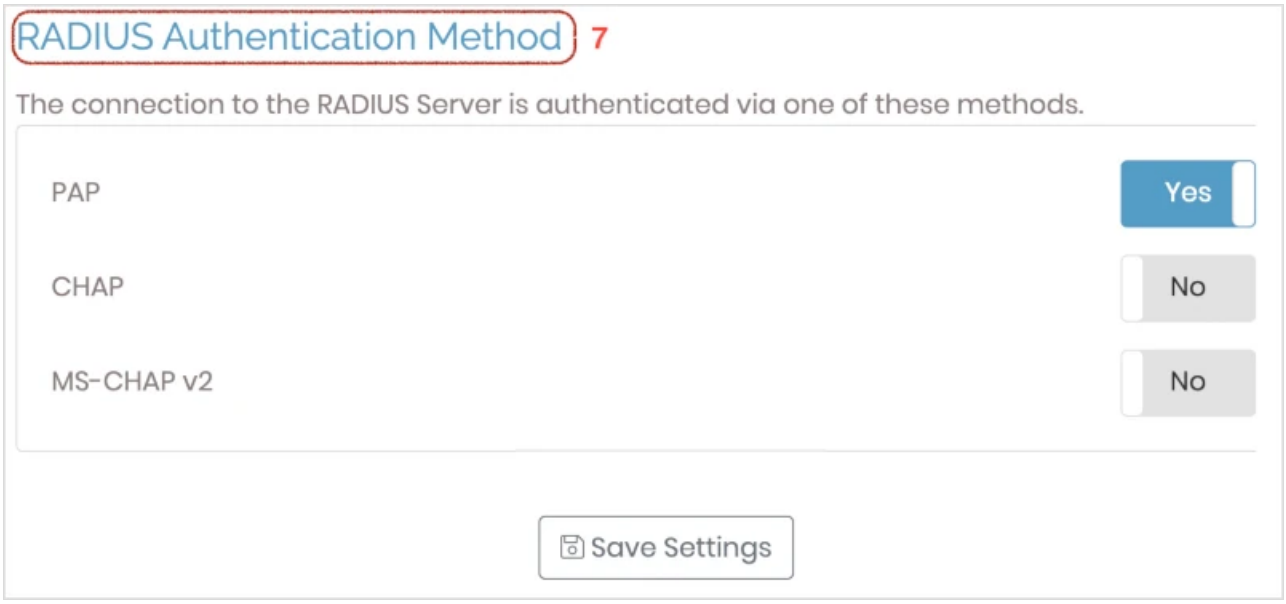
On your OpenOTP RadiusBridge server, edit the `/opt/radiusd/conf/clients.conf` and add a RADIUS client (with IP address and RADIUS secret) for your OpenVPN :

```
client <OpenVPN Server IP> {
    ipaddr = <OpenVPN Server IP>
    secret = Testing123
}
```

## 4. Configuring New Radius Server on OpenVPN

Here, we will configure a new RADIUS Server through the OpenVPN GUI.



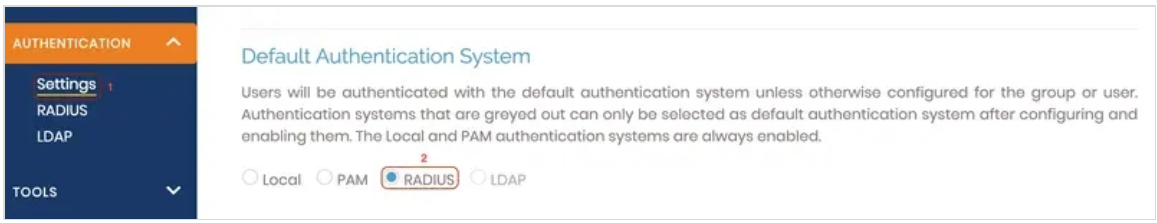




- Go on the `AUTHENTICATION` tab.
- Click on `RADIUS`.
- Set the toggle to `Yes` to enable `RADIUS authentication`.
- Specify the hostname or IP address for your `RADIUS server`.
- Specify the `shared secret`. You must configure the `RADIUS server` with the same shared secret.

- Define the port where the `RADIUS` protocol sends UDP packets. The default port is 1812. `Accounting Port` : Define the port where the RADIUS protocol listens for accounting requests. The default port is 1813, and the accounting port is only required when you enable RADIUS accounting.

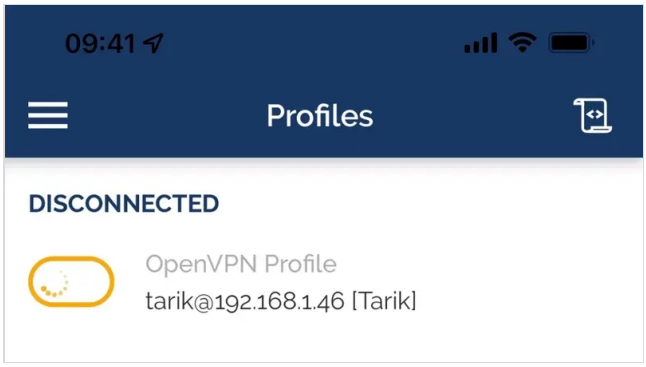
- Define the `RADIUS` Authentication Method.

  In the same menu, click on `Settings` and choose `RADIUS` :

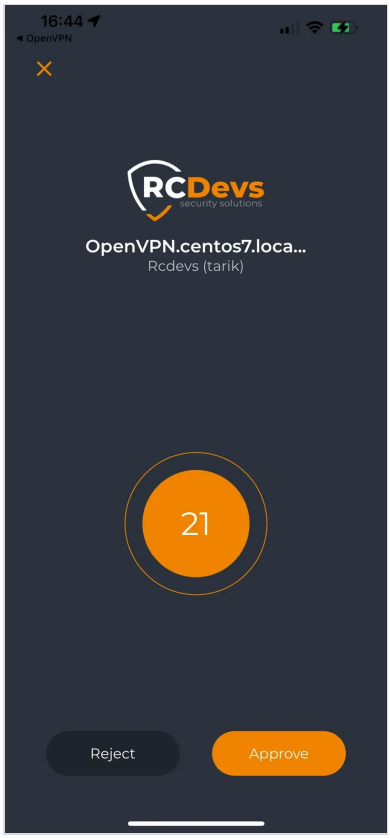



  Don't forget to `Save Settings` after each modification.

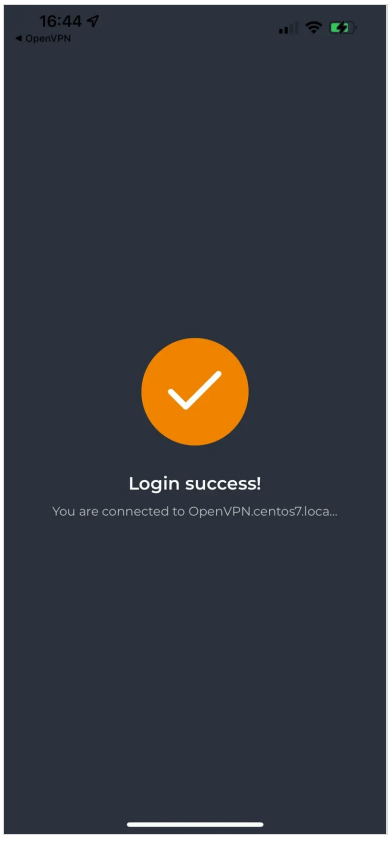
`Test of Authentication :`

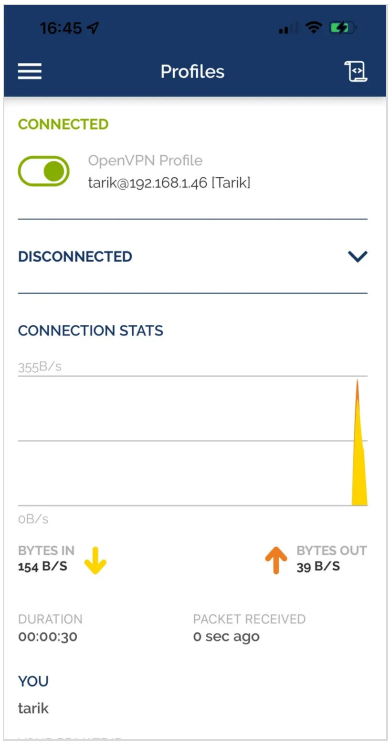



`Receiving push notification :`




`Login success :`






`WebADM logs :` Below the OpenVPN session logs after the success login with OpenOTP :

```
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] New openotpSimpleLogin SOAP request
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] > Username: tarik
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] > Password: xxxxxxxxxxxx
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] > Client ID:
OpenVPN.centos7.localdomain
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] > Options: RADIUS,NOVOICE,-U2F
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Registered openotpSimpleLogin request
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Resolved LDAP user: cn=tarik,o=Root
[2022-06-22 15:59:17] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Using SQL server 'SQL Server'
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Started transaction lock for user
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Found 48 user settings:
LoginMode=LDAPOTP,OTPType=TOKEN,PushLogin=Yes,ChallengeMode=Yes,ChallengeTimeout=90,Challeng
1:HOTP-SHA1-6:QN06-
T1M,DeviceType=FIDO2,U2FPINMode=Discouraged,SMSType=Normal,SMSMode=Ondemand,MailMode=Onc

[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Found 5 user data:
TokenType,TokenKey,TokenState,TokenID,TokenSerial
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Found 1 registered OTP token (TOTP)
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Requested login factors: LDAP & OTP
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] LDAP password Ok
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Session already started (overriding)
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Authentication challenge required
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Sent push notification for token #1
(session AVAR256yr0aZRrrB)
[2022-06-22 15:59:18] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Waiting 27 seconds for mobile response
[2022-06-22 15:59:21] [172.16.3.9:56174] [OpenOTP:6EZZ8LR2] Received mobile login response from
172.16.3.9
[2022-06-22 15:59:21] [172.16.3.9:56174] [OpenOTP:6EZZ8LR2] > Session: AVAR256yr0aZRrrB
[2022-06-22 15:59:21] [172.16.3.9:56174] [OpenOTP:6EZZ8LR2] > Password: 16 Bytes
[2022-06-22 15:59:21] [172.16.3.9:56174] [OpenOTP:6EZZ8LR2] Found authentication session started
2022-06-22 15:59:18
[2022-06-22 15:59:21] [172.16.3.9:56174] [OpenOTP:6EZZ8LR2] PUSH password Ok (token #1)
[2022-06-22 15:59:21] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Updated user data
[2022-06-22 15:59:21] [127.0.0.1:52988] [OpenOTP:6EZZ8LR2] Sent login success response
```

`Radiusd logs using debug mode :`

```
(11) Received Access-Request Id 109 from 192.168.1.46:57336 to 192.168.1.28:1812 length 98
(11)   User-Name = "tarik"
(11)   User-Password = "*******"
(11)   NAS-Identifier = "OpenVPN.centos7.localdomain"
(11)   Service-Type = Outbound-User
(11)   NAS-Port = 6
(11)   Framed-Protocol = PPP
(11)   NAS-Port-Type = Virtual
(11) # Executing section authorize from file /opt/radiusd/lib/radiusd.ini
(11)   authorize {
(11) eap: No EAP-Message, not doing EAP
(11)     [eap] = noop
(11) pap: WARNING: No "known good" password found for the user.  Not setting Auth-Type
(11) pap: WARNING: Authentication will fail unless a "known good" password is available
(11)     [pap] = noop
(11)     [openotp] = ok
(11)   } # authorize = ok
(11) Found Auth-Type = OTP
(11) # Executing group from file /opt/radiusd/lib/radiusd.ini
(11)   Auth-Type OTP {
rlm_openotp: Found client ID attribute with value "OpenVPN.centos7.localdomain"
rlm_openotp: Found client IP attribute with value "192.168.1.46"
rlm_openotp: Sending openotpSimpleLogin request
rlm_openotp: OpenOTP authentication succeeded
rlm_openotp: Reply message: Authentication success
rlm_openotp: Sending Access-Accept
(11)     [openotp] = ok
(11)   } # Auth-Type OTP = ok
(11) Login OK: [tarik] (from client 192.168.1.46 port 6)
(11) Sent Access-Accept Id 109 from 192.168.1.28:1812 to 192.168.1.46:57336 length 44
(11)   Reply-Message := "Authentication success"
(11) Finished request
Waking up in 9.9 seconds.
(11) Cleaning up request packet ID 109 with timestamp +1582 due to cleanup_delay was reached
Ready to process requests
Connection to 192.168.3.168 closed by remote host.
Connection to 192.168.3.168 closed.
```