Ejercicios muy sencillos con FreeRADIUS

*(Todos pensados para **Kali/Ubuntu en laboratorio**, sin meternos aún en integraciones complejas)*

🔹 Ejercicio 1 — Instalar FreeRADIUS

sudo apt update

sudo apt install freeradius freeradius-utils -y

👉

```
~/Doc/Ejercicios_seguridad_informatica_2025 main ?1 ❯ sudo apt install freeradius freeradius-utils
Installing:
  freeradius  freeradius-utils

Installing dependencies:
  freeradius-common  freeradius-config  libfreeradius3
```

Resultado esperado: FreeRADIUS instalado en el sistema.

```
Setting up freeradius (3.2.8+dfsg-1) ...
update-rc.d: We have no instructions for the freeradius init script.
update-rc.d: It looks like a network service, we disable it.
update-rc.d: warning: start and stop actions are no longer supported; falling back to defaults
freeradius.service is a disabled or a static unit, not starting it.
Setting up freeradius-utils (3.2.8+dfsg-1) ...
Processing triggers for man-db (2.13.1-1) ...
Processing triggers for kali-menu (2025.4.1) ...
```

🔹 Ejercicio 2 — Comprobar que el servicio corre

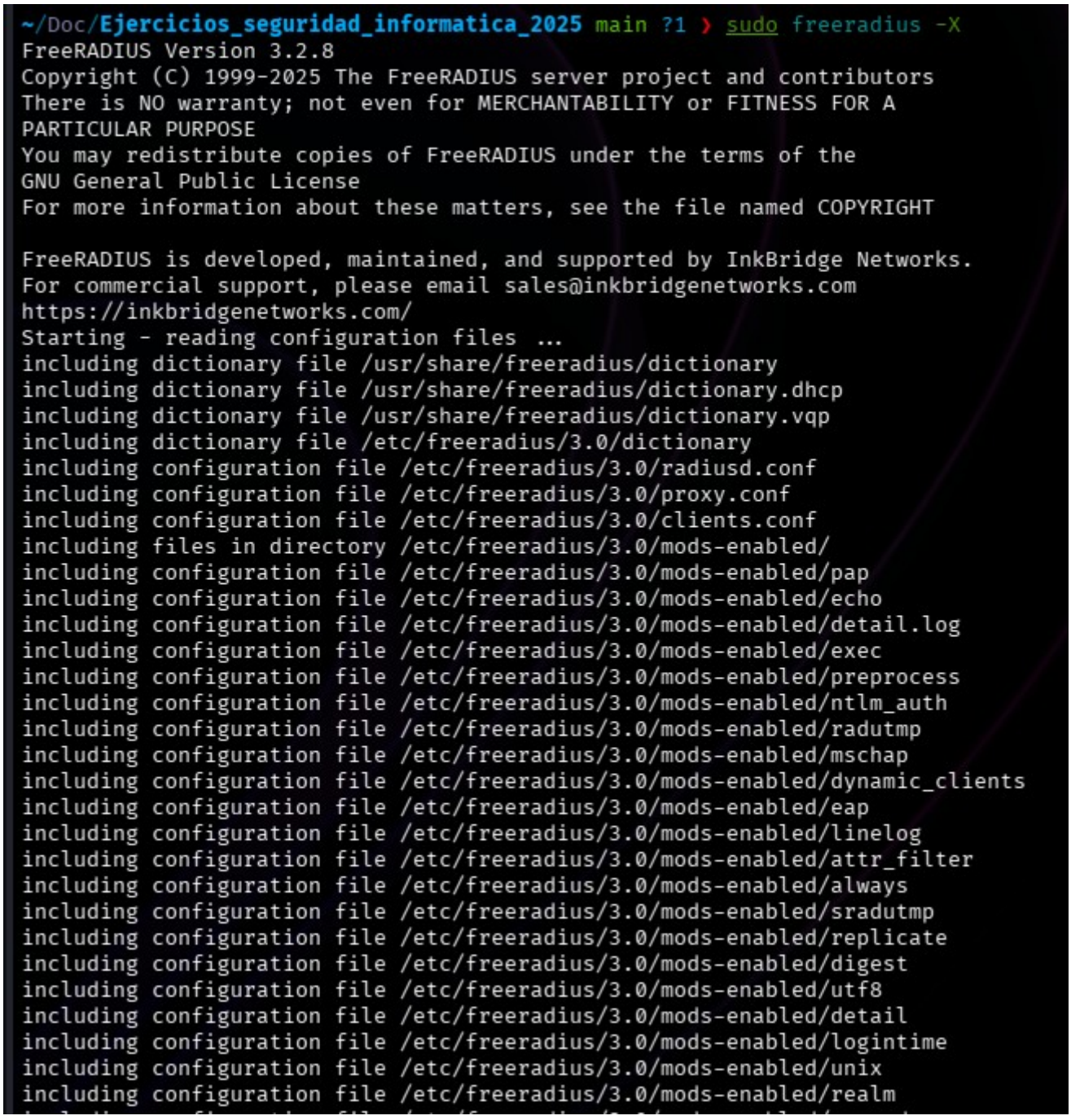
👉 Resultado esperado: servicio activo (running).

```
Processing triggers for man-db (2.13.1-1) ...
Processing triggers for kali-menu (2025.4.1) ...

~/Doc/Ejercicios_seguridad_informatica_2025 main ?1 ❯ sudo systemctl status freeradius
○ freeradius.service - FreeRADIUS multi-protocol policy server
     Loaded: loaded (/usr/lib/systemd/system/freeradius.service; disabled; preset: disabled)
     Active: inactive (dead)
       Docs: man:radiusd(8)
             man:radiusd.conf(5)
             http://wiki.freeradius.org/
             http://networkradius.com/doc/

~/Doc/Ejercicios_seguridad_informatica_2025 main ?1 ❯ sudo systemctl enable freeradius
Synchronizing state of freeradius.service with SysV service script with /usr/lib/systemd/syst
Executing: /usr/lib/systemd/systemd-sysv-install enable freeradius
Created symlink '/etc/systemd/system/multi-user.target.wants/freeradius.service' → '/usr/lib/
us.service'.

~/Doc/Ejercicios_seguridad_informatica_2025 main ?1 ❯ sudo systemctl status freeradius
○ freeradius.service - FreeRADIUS multi-protocol policy server
     Loaded: loaded (/usr/lib/systemd/system/freeradius.service; enabled; preset: disabled)
     Active: inactive (dead)
       Docs: man:radiusd(8)
             man:radiusd.conf(5)
             http://wiki.freeradius.org/
             http://networkradius.com/doc/
```

🔹 **Ejercicio 3 — Ejecutar FreeRADIUS en modo debug**

sudo freeradius -X

👉 Resultado esperado: ver en pantalla todos los logs de autenticación (muy útil para aprender).



HAY QUE ABRIR OTRO TERMINAL IMPORTANTE

🔹 **Ejercicio 4 — Añadir un usuario simple**

1. Edita el archivo:

   sudo nano /etc/freeradius/3.0/users

2. Añade al final:

   alumno Cleartext-Password := "1234"

```
~/Documents/box ❯ sudo nano /etc/freeradius/3.0/users

~/Documents/box ❯ sudo tail /etc/freeradius/3.0/users

# On no match, the user is denied access.


############################################################
# You should add test accounts to the TOP of this file! #
# See the example user "bob" above.                      #
############################################################

alumno Cleartext-Password:="1234"
```

3. Guarda y reinicia:

   sudo systemctl restart freeradius

👉 Resultado esperado: usuario alumno con contraseña 1234 listo para autenticarse.

```
~/Documents/box ❯ sudo systemctl status freeradius
● freeradius.service - FreeRADIUS multi-protocol policy server
     Loaded: loaded (/usr/lib/systemd/system/freeradius.service; enabled; preset: disabled)
     Active: active (running) since Mon 2025-09-29 10:03:15 CEST; 27s ago
 Invocation: 33d56747c0ea4a3f9c0b9eb958e25a34
       Docs: man:radiusd(8)
             man:radiusd.conf(5)
             http://wiki.freeradius.org/
             http://networkradius.com/doc/
    Process: 81836 ExecStartPre=/usr/sbin/freeradius $FREERADIUS_OPTIONS -Cx -lstdout (code=exited, status=0/SUCCE
   Main PID: 81838 (freeradius)
     Status: "Processing requests"
      Tasks: 6 (limit: 6870)
     Memory: 43.6M (max: 2G, available: 1.9G, peak: 44.4M)
        CPU: 112ms
     CGroup: /system.slice/freeradius.service
             └─81838 /usr/sbin/freeradius -f

Sep 29 10:03:15 kali freeradius[81836]: Compiling Post-Auth-Type Challenge for attr Post-Auth-Type
Sep 29 10:03:15 kali freeradius[81836]: Compiling Post-Auth-Type Client-Lost for attr Post-Auth-Type
Sep 29 10:03:15 kali freeradius[81836]: Compiling Auth-Type PAP for attr Auth-Type
Sep 29 10:03:15 kali freeradius[81836]: Compiling Auth-Type CHAP for attr Auth-Type
Sep 29 10:03:15 kali freeradius[81836]: Compiling Auth-Type MS-CHAP for attr Auth-Type
Sep 29 10:03:15 kali freeradius[81836]:  # Skipping contents of 'if' as it is always 'false' -- /etc/freeradius/3.
Sep 29 10:03:15 kali freeradius[81836]: Compiling Post-Auth-Type REJECT for attr Post-Auth-Type
Sep 29 10:03:15 kali freeradius[81836]: radiusd: #### Skipping IP addresses and Ports ####
Sep 29 10:03:15 kali freeradius[81836]: Configuration appears to be OK
```

🔹 Ejercicio 5 — Probar autenticación con radtest

radtest alumno 1234 localhost 0 testing123

👉 Resultado esperado: respuesta Access-Accept.

Esto es el caso de que haya sido incorrecto

```
~/Documents/box ❯ radtest alumno 1234 localhost 0 testing123
Sent Access-Request Id 63 from 0.0.0.0:56863 to 127.0.0.1:1812 length 76
        User-Name = "alumno"
        User-Password = "1234"
        NAS-IP-Address = 127.0.1.1
        NAS-Port = 0
        Message-Authenticator = 0x00
        Cleartext-Password = "1234"
Received Access-Accept Id 63 from 127.0.0.1:1812 to 127.0.0.1:56863 length 38
        Message-Authenticator = 0x6f67a010b87f1b264f22b02894ce97c7
```

🔹 Ejercicio 6 — Probar con contraseña incorrecta

radtest alumno 0000 localhost 0 testing123

👉 Resultado esperado: respuesta Access-Reject.

```
~/Documents/box ❯ radtest alumno 12634 localhost 0 testing123
Sent Access-Request Id 173 from 0.0.0.0:51305 to 127.0.0.1:1812 length 76
        User-Name = "alumno"
        User-Password = "12634"
        NAS-IP-Address = 127.0.1.1
        NAS-Port = 0
        Message-Authenticator = 0x00
        Cleartext-Password = "12634"
Received Access-Reject Id 173 from 127.0.0.1:1812 to 127.0.0.1:51305 length 38
        Message-Authenticator = 0x96c774195f088e9527d1da8aa75b2041
(0) -: Expected Access-Accept got Access-Reject
```

🔹 Ejercicio 7 — Revisar logs de autenticación

sudo tail -f /var/log/freeradius/radius.log

👉 Resultado esperado: líneas mostrando quién intenta conectarse y con qué resultado.

```
~/Documents/box ❯ sudo tail -f /var/log/freeradius/radius.log
Mon Sep 29 10:03:15 2025 : Info:  # Skipping contents of 'if' as it is always 'false' -- /etc/freeradius/3.0/sites-e
nabled/inner-tunnel:366
Mon Sep 29 10:03:15 2025 : Info: Loaded virtual server inner-tunnel
Mon Sep 29 10:03:15 2025 : Info: Ready to process requests
Mon Sep 29 10:04:19 2025 : Error: !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Mon Sep 29 10:04:19 2025 : Error: BlastRADIUS check: Received packet with Message-Authenticator.
Mon Sep 29 10:04:19 2025 : Error: Setting "require_message_authenticator = true" for client localhost
Mon Sep 29 10:04:19 2025 : Error: !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Mon Sep 29 10:04:19 2025 : Error: It looks like the client has been updated to protect from the BlastRADIUS attack.
Mon Sep 29 10:04:19 2025 : Error: Please set "require_message_authenticator = true" for client localhost
Mon Sep 29 10:04:19 2025 : Error: !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

- **Ejercicio 8 — Añadir un segundo usuario**

En /etc/freeradius/3.0/users agrega:

profesor Cleartext-Password := "abcd"

```
~/Documents/box ❯ sudo tail /etc/freeradius/3.0/users
# On no match, the user is denied access.


############################################################
# You should add test accounts to the TOP of this file! #
# See the example user "bob" above.                      #
############################################################

alumno Cleartext-Password:="1234"
profesor Cleartext-Password := "abcd"
```

Reinicia el servicio y prueba con radtest.

```
~/Documents/box ❯ radtest profesor abcd localhost 0 testing123
Sent Access-Request Id 150 from 0.0.0.0:42973 to 127.0.0.1:1812 length 78
        User-Name = "profesor"
        User-Password = "abcd"
        NAS-IP-Address = 127.0.1.1
        NAS-Port = 0
        Message-Authenticator = 0×00
        Cleartext-Password = "abcd"
Received Access-Accept Id 150 from 127.0.0.1:1812 to 127.0.0.1:42973 length 38
        Message-Authenticator = 0×c53ecfa517fb3599c5f40aaafc7de5f1
```

- **Ejercicio 9 — Cambiar puerto de escucha (opcional)**

1. Edita:

   sudo nano /etc/freeradius/3.0/sites-enabled/default

2. Busca listen { type = auth port = 1812 } y cámbialo a otro puerto (ej. 18120).

3. Reinicia y prueba con radtest:

   radtest alumno 1234 localhost:18120 0 testing123

```
~/Documents/box ❯ radtest alumno 1234 localhost:18120 0 testing123
Sent Access-Request Id 50 from 0.0.0.0:40654 to 127.0.0.1:18120 length 76
        User-Name = "alumno"
        User-Password = "1234"
        NAS-IP-Address = 127.0.1.1
        NAS-Port = 0
        Message-Authenticator = 0×00
        Cleartext-Password = "1234"
Received Access-Accept Id 50 from 127.0.0.1:18120 to 127.0.0.1:40654 length 38
        Message-Authenticator = 0×4a18e28e3d5162b8ba447c109a3441da
```

🔹 **Ejercicio 10 — Detener y arrancar el servicio**

sudo systemctl stop freeradius

sudo systemctl start freeradius

👉 Resultado esperado: los alumnos comprueban cómo controlar el servicio.