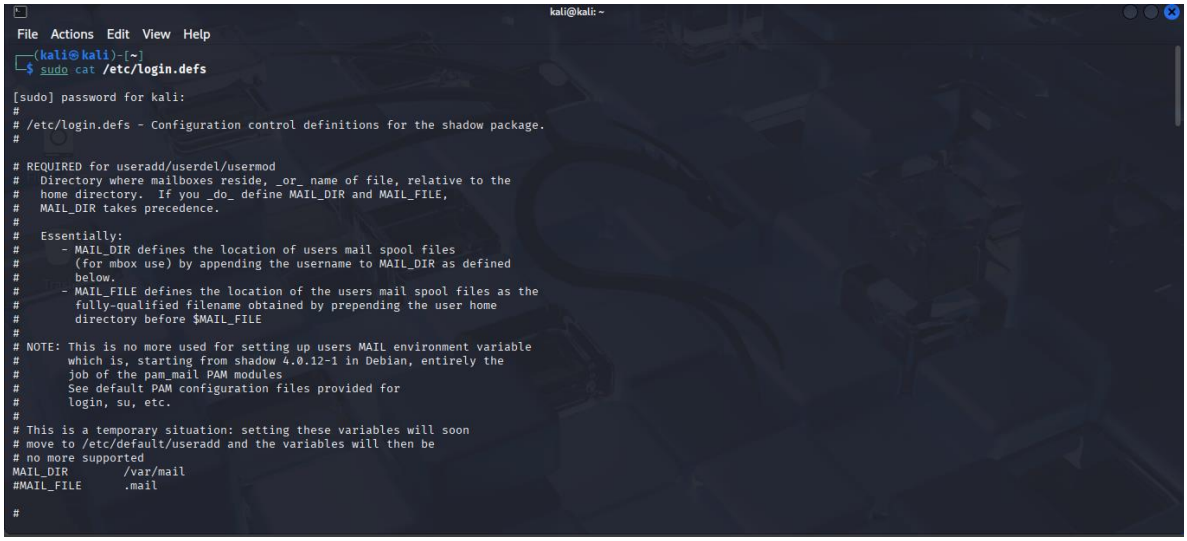
Prácticas de contraseña segura (creación y gestión)

Configuración de Políticas de Contraseñas Seguras

1. Verificar la política de contraseñas actual en Linux se realiza revisando el archivo de configuración pam.d y el archivo /etc/login.defs:



```
File  Actions  Edit  View  Help
#
ENCRYPT_METHOD YESCRYPT

#
# Should login be allowed if we can't cd to the home directory?
# Default is no.
#
DEFAULT_HOME    yes

#
# The pwck(8) utility emits a warning for any system account with a home
# directory that does not exist.  Some system accounts intentionally do
# not have a home directory.  Such accounts may have this string as
# their home directory in /etc/passwd to avoid a spurious warning.
#
NONEXISTENT     /nonexistent

#
# If defined, this command is run when removing a user.
# It should remove any at/cron/print jobs etc. owned by
# the user to be removed (passed as the first argument).
#
#USERDEL_CMD    /usr/sbin/userdel_local

#
# If set to yes, userdel(8) will remove the user's group if it contains no more
# members, and useradd(8) will create by default a group with the name of the
# user.
#
# Other former uses of this variable are not used in PAM environments, such as
# Debian.
#
USERGROUPS_ENAB yes
```

Se revisó la configuración de pam.d:

```
┌──(kali㉿kali)-[~]
└─$ sudo cat /etc/pam.d/common-password
#
# /etc/pam.d/common-password - password-related modules common to all services
#
# This file is included from other service-specific PAM config files,
# and should contain a list of modules that define the services to be
# used to change user passwords.  The default is pam_unix.

# Explanation of pam_unix options:
# The "yescrypt" option enables
#hashed passwords using the yescrypt algorithm, introduced in Debian
#11.  Without this option, the default is Unix crypt.  Prior releases
#used the option "sha512"; if a shadow password hash will be shared
#between Debian 11 and older releases replace "yescrypt" with "sha512"
#for compatibility .  The "obscure" option replaces the old
#`OBSCURE_CHECKS_ENAB' option in login.defs.  See the pam_unix manpage
#for other options.

# As of pam 1.0.1-6, this file is managed by pam-auth-update by default.
# To take advantage of this, it is recommended that you configure any
# local modules either before or after the default block, and use
# pam-auth-update to manage selection of other modules.  See
# pam-auth-update(8) for details.

# here are the per-package modules (the "Primary" block)
password        [success=2 default=ignore]      pam_unix.so obscure yescrypt
password        [success=1 default=ignore]      pam_winbind.so try_authtok try_first_pass
# here's the fallback if no module succeeds
password        requisite                       pam_deny.so
# prime the stack with a positive return value if there isn't one already;
# this avoids us returning an error just because nothing sets a success code
# since the modules above will each just jump around
password        required                        pam_permit.so
```

Verificación con pwquality.conf:

```
┌──(kali㉿kali)-[~]
└─$ sudo cat /etc/security/pwquality.conf

# Configuration for systemwide password quality limits
# Defaults:
#
# Number of characters in the new password that must not be present in the
# old password.
# difok = 1
#
# Minimum acceptable size for the new password (plus one if
# credits are not disabled which is the default). (See pam_cracklib manual.)
# Cannot be set to lower value than 6.
# minlen = 8
#
# The maximum credit for having digits in the new password. If less than 0
# it is the minimum number of digits in the new password.
# dcredit = 0
#
# The maximum credit for having uppercase characters in the new password.
# If less than 0 it is the minimum number of uppercase characters in the new
# password.
# ucredit = 0
#
# The maximum credit for having lowercase characters in the new password.
# If less than 0 it is the minimum number of lowercase characters in the new
# password.
# lcredit = 0
#
# The maximum credit for having other characters in the new password.
# If less than 0 it is the minimum number of other characters in the new
# password.
# ocredit = 0
#
```

2. Configuración de la Longitud Mínima y Complejidad

   Instalación del módulo libpam

```
└─$ sudo apt install libpam-pwquality -y

The following packages were automatically installed and are no longer required:
  icu-devtools  libfuse3-3     libglapi-mesa  liblbfgsb0     libpython3.12-minimal  libpython3.12t64      python3.12-tk  strongswan
  libflac12t64  libgeos3.13.0  libicu-dev     libpoppler145  libpython3.12-stdlib   python3-setproctitle  ruby-zeitwerk
Use 'sudo apt autoremove' to remove them.

Installing:
  libpam-pwquality

Summary:
  Upgrading: 0, Installing: 1, Removing: 0, Not Upgrading: 7
  Download size: 13.1 kB
  Space needed: 41.0 kB / 61.8 GB available

Get:1 http://kali.download/kali kali-rolling/main amd64 libpam-pwquality amd64 1.4.5-5 [13.1 kB]
Fetched 13.1 kB in 1s (12.8 kB/s)
Selecting previously unselected package libpam-pwquality:amd64.
(Reading database ... 417590 files and directories currently installed.)
Preparing to unpack .../libpam-pwquality_1.4.5-5_amd64.deb ...
Unpacking libpam-pwquality:amd64 (1.4.5-5) ...
Setting up libpam-pwquality:amd64 (1.4.5-5) ...
Processing triggers for man-db (2.13.0-1) ...

┌──(kali㉿kali)-[~]
└─$
```

Edición del archivo

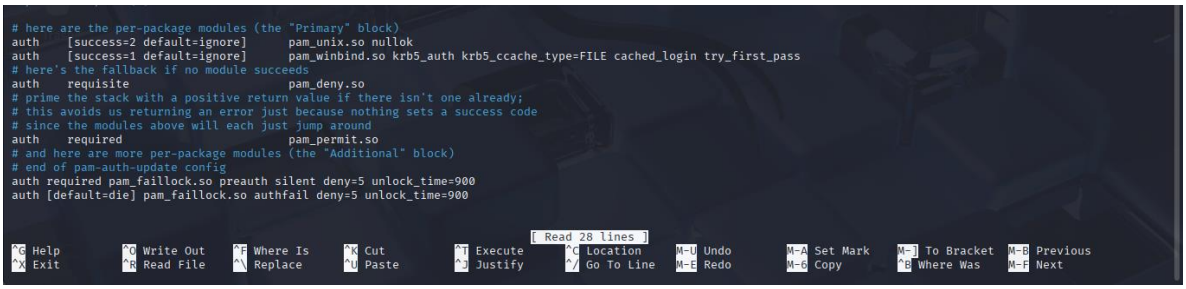
```
File  Actions  Edit  View  Help
  GNU nano 8.4                                        /etc/security/pwquality.conf
# Length of substrings from the username to check for in the password
# The check is enabled if the value is greater than 0 and usercheck is enabled.
# usersubstr = 0
#
# Whether the check is enforced by the PAM module and possibly other
# applications.
# The new password is rejected if it fails the check and the value is not 0.
# enforcing = 1
#
# Path to the cracklib dictionaries. Default is to use the cracklib default.
# dictpath =
#
# Prompt user at most N times before returning with error. The default is 1.
# retry = 3
#
# Enforces pwquality checks on the root user password.
# Enabled if the option is present.
# enforce_for_root
#
# Skip testing the password quality for users that are not present in the
# /etc/passwd file.
# Enabled if the option is present.
# local_users_only

minlen = 12
dcredit = -1
ucredit = -1
lcredit = -1
ocredit = -1

^G Help        ^O Write Out   ^F Where Is    ^K Cut         ^T Execute     ^C Location    M-U Undo       M-A Set Mark   M-] To Bracket  M-B Previous
^X Exit        ^R Read File   ^\ Replace     ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo       M-6 Copy       ^Q Where Was    M-F Next
```

Aplicar las políticas modificando el archivo /etc/pam.d/common-password para que use el módulo pam_pwquality.so

```
# The "yescrypt" option enables
#hashed passwords using the yescrypt algorithm, introduced in Debian
#11.  Without this option, the default is Unix crypt.  Prior releases
#used the option "sha512"; if a shadow password hash will be shared
#between Debian 11 and older releases replace "yescrypt" with "sha512"
#for compatibility .  The "obscure" option replaces the old
#`OBSCURE_CHECKS_ENAB' option in login.defs.  See the pam_unix manpage
#for other options.

# As of pam 1.0.1-6, this file is managed by pam-auth-update by default.
# To take advantage of this, it is recommended that you configure any
# local modules either before or after the default block, and use
# pam-auth-update to manage selection of other modules.  See
# pam-auth-update(8) for details.

# here are the per-package modules (the "Primary" block)
password        requisite                       pam_pwquality.so retry=3
password        [success=2 default=ignore]      pam_unix.so obscure use_authtok try_first_pass yescrypt
password        [success=1 default=ignore]      pam_winbind.so try_authtok try_first_pass
# here's the fallback if no module succeeds
password        requisite                       pam_deny.so
# prime the stack with a positive return value if there isn't one already;
# this avoids us returning an error just because nothing sets a success code
# since the modules above will each just jump around
password        required                        pam_permit.so
# and here are more per-package modules (the "Additional" block)
password        optional        pam_gnome_keyring.so
# end of pam-auth-update config

^G Help        ^O Write Out   ^F Where Is    ^K Cut         ^T Execute     ^C Location    M-U Undo       M-A Set Mark   M-] To Bracket  M-B Previous
^X Exit        ^R Read File   ^\ Replace     ^U Paste       ^J Justify     ^/ Go To Line  M-E Redo       M-6 Copy       ^Q Where Was    M-F Next
```

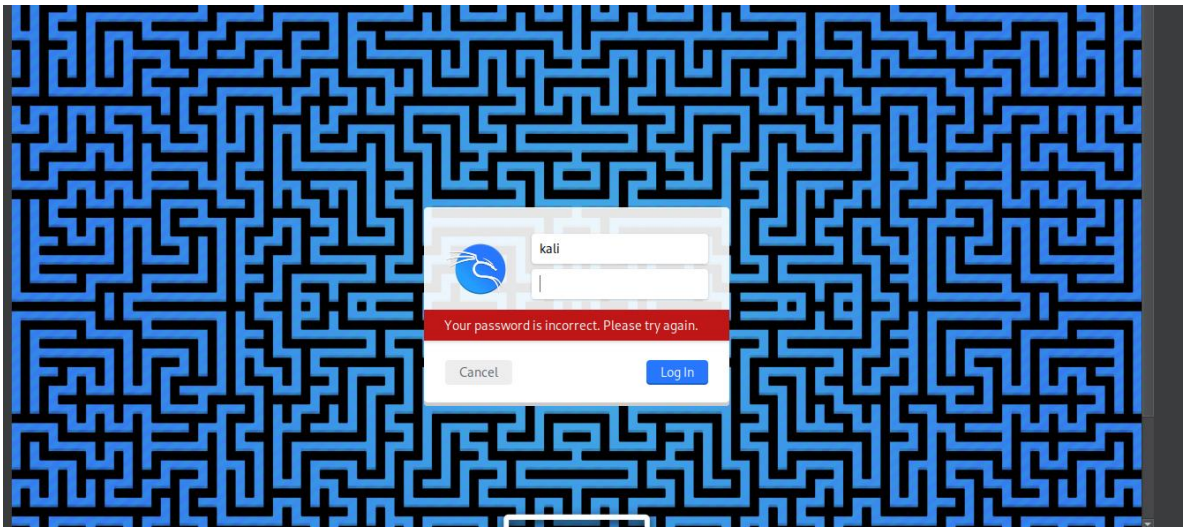
Configuración de Bloqueo de Cuenta tras Intentos Fallidos

Configuración con pam_faillock:



Verificación y Documentación de la Configuración

Luego de ingresar la contraseña incorrecta 5 veces, aunque se escriba la contraseña correcta esta no funciona



La práctica permitió reforzar conocimientos sobre políticas de contraseñas y mecanismos de protección frente a ataques de fuerza bruta. El sistema reaccionó adecuadamente en todos los casos.