

Passwordless logins with Yubikey

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Goal



Lock and unlock your screen using just a Yubikey

PAM Configuration

- Defines the authentication flow for common Linux utilities
- Requires the *pam_yubico.so* module
(called *yubico-pam* package on Arch)

Yubikey authentication modes

1. Client mode:

Sends a request to the *Yubico server* for verification

2. Challenge-response mode:

Uses the *Yubikey's public ID* and *challenge-response credential* to verify the user

Add mapping for your Yubikey

- Press the Yubikey button:
 - Extract first 12 characters:

vvctffbvkhdnliklfhbbfie cudthfvrvuhnhtirehidr

- Copy this to */etc/yubikey_mappings* file

```
$ cat /etc/yubikey_mappings  
adeel:vvctffbvkhdn
```

Setting the challenge response credential

- Requires the Yubikey manager tool called *ykman* (called *yubikey-manger* on Arch)
- Set on slot 2 of Yubikey with:
\$ ykman otp chalresp --generate 2
Using a randomly generated key:
29eb38b6f50b246c46f954af9710a77c78792114
Program a challenge-response credential in slot 2? [y/N]: y
- Write secret to local disk:
\$ ykpamcfg -2
Stored initial challenge and expected response in
'/home/adeel/.yubico/challenge-<Serial ID>'.

Updating the PAM configuration

```
$ cat /etc/pam.d/xlock
#%PAM-1.0
auth sufficient pam_yubico.so # (1)
    mode=challenge-response
    authfile=/etc/yubikey_mappings
auth include system-auth      # (2)
```

Locking the screen when Yubikey is unplugged

- Create the *Udev* rule:

```
$ cat /etc/udev/rules.d/yubikey-actions.rules
```

```
ACTION=="remove", ENV{ID_MODEL_ID}=="0407",  
ENV{ID_VENDOR_ID}=="1050",  
RUN+="/usr/bin/systemctl start xlock.service"
```


Locking the screen when Yubikey is unplugged

- Create the *Systemd* service:

```
$ cat /etc/systemd/system/xlock.service
[Unit]
Description=xlock

[Service]
User=adeel
Type=simple
Environment=DISPLAY=:0
ExecStart=/usr/bin/xlock

[Install]
WantedBy=multi-user.target
```

Comments || Questions?

Blog Post

<https://adl1995.github.io/passwordless-logins-with-yubikey.html>

Discussion

<https://news.ycombinator.com/item?id=26169369>