

PAM Install & config

PAM Jump Server installation and configuration

- Installing PAM using Docker
 - PAM Jump Server Installation
 - PAM Jump Server Upgrade
- Installing PAM using Docker Compose
 - PAM Jump Server Installation
- Installing PAM using Kubernetes
 - PAM Jump Server Installation
- Configure PAM session servers
- SSH gateway
 - SSH Gateway Docker Installation
 - SSH Gateway Docker Compose Installation
 - SSH Gateway Connection
- RDP gateway
 - RDP Gateway Docker Installation
 - RDP Gateway Docker Compose Installation
 - RDP Gateway Connection
- ☐ To bear in mind
- Cannot retrieve password for account

Installing PAM using Docker

How to install PAM using Docker

PAM Jump Server Installation

The purpose of this tutorial is to show how to install Jump servers and configure PAM using Docker, to use critical resources without knowing the password required.

Jump Server

“ A jump server, jump host or jump box is a system on a network used to access and manage devices in a separate security zone. A jump server is a hardened and monitored device that spans two dissimilar security zones and provides a controlled means of access between them. (*)

From version **1.4.36 and higher**, Soffid PAM Launcher and Store installs allowing only **TLSv1.3 protocol**.

Prerequisites

Prerequisites to install PAM using Docker:

1. Install docker (<https://docs.docker.com/install/>)
2. Create a Docker network(*), that network allows you to connect containers to the same bridge network to communicate:

```
sudo docker network create -d bridge NETWORKNAME
```

* You can use the same network defined in the Console and Sync Server installation to avoid visibility problems.

Screen overview

https://www.youtube.com/embed/3itV07_J8ZQ?rel=0

Installation

The steps required to install PAM are:

1. Create the storage server container.
2. Create the launcher container.
3. Register storage server in Soffid console.

Fast path to create storage server and launcher containers

1. To create both containers, you can download the following script: [install-pam.sh](#)
2. Before installing, you have to edit the file and set the name of the new network you have created, and the latest versions of the store and launcher

```
.....  
docker create \  
  --network soffid \  
  -v soffid-pam-store:/opt/soffid/tomee/data \  
  -p 8081:8080 \  
  --name soffid-pam-store \  
  soffid/pam-store:1.3.0 >/dev/null  
  
.....
```

```
.....  
docker create \  
  --network soffid \  
  -v soffid-pam-launcher:/opt/soffid/tomee/launcher \  
  -v /var/run/docker.sock:/var/run/docker.sock \  
  -p 8082:8080 \  
  -e STORE_SERVER="http://$PUBLIC_IP:8081/" \  
  -e STORE_USER="$userid" \  
  soffid/pam-launcher:1.3.0 >/dev/null  
  
.....
```

```
-e STORE_PASSWORD="$pass" \  
--name soffid-pam-launcher \  
soffid/pam-launcher:1.3.0 >/dev/null
```

.....

3. Finally, you can execute the script

```
~/Downloads$ bash ./install-pam.sh
```

A brief description of the script

1. Creates two volumes, one for the storage and the other for the launcher.
2. Creates a storage server container:
 - 2.1. In that container the files and videos recorded will be saved.
 - 2.2. All the data will be saved using a key.
 - 2.3. By default, it will use the 8081 port.
3. Starts the storage container.
4. Generates the user and password to connect the launcher.
5. Creates a launcher server container:
 - 5.1. That container will be in charge of recording and sending the recording files to the storage.
 - 5.2. Soffid allows you to configure some environment variables:

Variable		Description
STORE_SERVER		Store URL
STORE_USER		Store user
STORE_PASSWORD		Store password
JAVA_KEYSTORE		(optional) Key store path that contains the key S

KEYSTORE_PASS	(optional) SSL key
NETWORK_ID	(optional) Network ID for docker services

5.3. By default, it will use the 8082 port.

6. Starts the launcher container.

7. Generates the encryption key to be used to store the recordings.

8. Generates the user and password that have to be registered on Soffid Console.

You will get something similar to this. When the process is complete, two docker containers should be created: soffid-pam-store and soffid-pam-launcher.

```
~/Downloads$ bash ./install-pam.sh
=====
Creating store server
=====
Waiting for store server
Creating launch server
=====
Process completed
Notice: You must register the store server in Soffid console:
User name: bubu-thinkpad
Password : DRFoeOsD02yph7DERNCaZB8jp3b67bO3D/Ax3uS4PbzuBnPbQLhR1lyAu9PFqRJ0
~/Downloads$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
854d7aff5c0a   soffid/pam-launcher  "/bin/sh -c /opt/sof..."  4 minutes ago  Up 4 minutes  0.0.0.0:8082->8080/tcp    soffid-pam-launcher
7d66a3d3cfa1   soffid/pam-store    "/bin/sh -c /opt/sof..."  4 minutes ago  Up 4 minutes  0.0.0.0:8081->8080/tcp    soffid-pam-store
```

Next, you must open the Jump Server page in the Soffid console. On this page, you must register the store and launcher servers, using the user name and password displayed in the previous step.

Visit the [Configure PAM session servers](#) on Soffid Console to finish the installation process.



Group name :	<input type="text" value="test-pat"/>
Description :	<input type="text" value="test-pat"/>
User name :	<input type="text" value="username"/>
Password :	<input type="password" value="....."/>
URL :	<input type="text" value="http://soffid.pat.lab:8081"/>
Jump servers :	<div><input type="text" value="http://soffid.pat.lab:8082"/><input type="button" value="x"/></div> <div><input type="text" value="Jump servers"/></div>

Privileged Account Session Recording

Be in mind that you need to download the latest image of the required Privileged Account Session Recording that you need depending on the protocol.

- soffid-pasr-ssh
- soffid-pasr-rdp
- soffid-pasr-jdbc
- soffid-pasr-http
- soffid-pasr-https
- soffid-pasr-tn5250
- soffid-pasr-kube

Examples

Linux

```
docker pull soffid/soffid-pasr-ssh
```

Windows

```
docker pull soffid/soffid-pasr-rdp
```

To save a Web session you will need to add some parameters to the launcher system.properties (/opt/soffid/tomee/conf/system.properties)

Parameters to add:

```
SOFFID_PAM_PARAMS_http=--shm-size=1024m --privileged -eVNCSERVER=yes  
SOFFID_PAM_PARAMS_https=--shm-size=1024m --privileged -eVNCSERVER=yes
```

(*) https://en.wikipedia.org/wiki/Jump_server

PAM Jump Server Upgrade

Upgrade

To upgrade PAM you will need to run two scripts, one for the store and the other for the launcher.

Upgrade store

To upgrade the storage container you can download and execute the following script: [upgrade-store.sh](#)

```
~/Downloads$ bash ./upgrade-store.sh
```

A brief description of the script

1. Gets the latest version of the PAM store.
2. Stops the store container.
3. Removes the store container.
4. Creates a new store container.
5. Starts a new store container.

Upgrade launcher

To upgrade the launcher container you can download and execute the following script: [upgrade-launcher.sh](#)

```
~/Downloads$ bash ./upgrade-launcher.sh
```

A brief description of the script

1. Gets the latest version of the PAM launcher.
 2. Gets environment variables of current docker to create the new docker with the same configuration
 3. Stops the launcher container.
 4. Removes the launcher container.
 5. Creates a new launcher container.
 6. Starts a new launcher container.
-

(*) https://en.wikipedia.org/wiki/Jump_server

Installing PAM using Docker Compose

How to Install PAM using Docker Compose

PAM Jump Server Installation

The purpose of this tutorial is to show how to install Jump servers and configure PAM using Docker compose, to use critical resources without knowing the password required.

Jump Server

“ A jump server, jump host or jump box is a system on a network used to access and manage devices in a separate security zone. A jump server is a hardened and monitored device that spans two dissimilar security zones and provides a controlled means of access between them. (*)

Installation

1. Execute the Store YAML

```
version: '3.8'

services:
  pam-store:
    image: soffid/pam-store:1.4.48
    environment:
      JAVA_KEYSTORE: /opt/soffid/tomee/certificates/YOUR_soffid-pam-store.jks
      KEYSTORE_PASS: YOUR_KEYSTORE
    ports:
      - "8081:8443"
    networks:
      - network
    volumes:
      - store-trustedcerts:/opt/soffid/tomee/trustedcerts
      - store-certificates:/opt/soffid/tomee/certificates
```

```
- store-data:/opt/soffid/tomee/data
```

```
networks:
```

```
network:
```

```
name: YOUR_NETWORK
```

```
driver: bridge
```

```
volumes:
```

```
store-trustedcerts:
```

```
name: soffid-pam-store-trustedcerts
```

```
store-certificates:
```

```
name: soffid-pam-certificates
```

```
store-data:
```

```
name: soffid-pam-store
```

Execute:

```
sudo docker compose up -d
```

2. Create a user in the Store to use it in the Launcher

Once, we are connected to the Store, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type launcher in the role parameter.

```
docker exec YOUR_pam-store_CONTAINER /opt/soffid/tomee/bin/add-user.sh user-launcher launcher
```

Result:

```
/bin/bash: warning: setlocale: LC_ALL: cannot change locale (en_US.UTF-8)
```

```
Password: cccccc/Qul9NFIqQnDU73gYccccVHThyew7Qt8Hqpf0rEzVq1Ft7azccccccc
```

As a result of the script, we receive the password for the created user. This password will be needed later when we create the launcher container.

3. Create a user in the Store to use it in the Console

Once, we are connected to the Store, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type console in the role parameter.

```
docker exec YOUR_pam-store_CONTAINER /opt/soffid/tomee/bin/add-user.sh user-console console
```

Result:

```
/bin/bash: warning: setlocale: LC_ALL: cannot change locale (en_US.UTF-8)
Password: asdadadasdads/Qul9NFIqQnDU73gYccccVHThyew7Qt8Hqpf0rEzVq1Ft7aadadadasd
```

As a result of the script, we receive the password for the created user. This password will be needed later when we configure PAM in the Soffid Console.

4. Execute the Launcher YAML

YAML example to create the Launcher using traefik as Ingress Controller

```
version: '3.8'

services:
  pam-launcher:
    image: soffid/pam-launcher:1.4.36
    environment:
      JAVA_KEYSTORE: /opt/soffid/tomee/certificates/YOUR_soffid-pam-launcher.jks
      KEYSTORE_PASS: YOUR_KESYSTORE
      STORE_SERVER: https://YOUR_pam-store_CONTAINER:8443
      STORE_USER: user-launcher
      STORE_PASSWORD: cccccc/Qul9NFIqQnDU73gYccccVHThyew7Qt8Hqpf0rEzVq1Ft7azccccccc
    ports:
      - "8082:8443"
    networks:
      - network
    volumes:
      - launcher-trustedcerts:/opt/soffid/tomee/trustedcerts
      - launcher-certificates:/opt/soffid/tomee/certificates
      - launcher-data:/opt/soffid/tomee/launcher
      - /var/run/docker.sock:/var/run/docker.sock
    networks:
      network:
        name: YOUR_NETWORK
```

driver: bridge

volumes:

launcher-trustedcerts:

name: soffid-pam-launcher-trustedcerts

launcher-certificates:

name: soffid-pam-certificates

launcher-data:

name: soffid-pam-launcher

Execute:

```
sudo docker compose up -d
```

5. Configure the Console



[Menú principal](#) > [Administración](#) > [Configurar Soffid](#) > [Configuraciones de seguridad](#) > [Configurar servidores de sesión PAM](#) 1 / 1

Nombre del grupo :

pam-ssh-configuration-2 *

Descripción :

PAM configuration ssh *

Nombre de usuario :

soffid.pat.lab-console-2 *

Contraseña :

..... *

URL :

https://soffid-pam-store-2:8443 *

Grupo servidores de salto :

https://soffid.pat.pam-2:8082 *

Grupo servidores de salto *

Deshacer

Aplicar cambios

Privileged Account Session Recording

Be in mind that you need to download the latest image of the required Privileged Account Session Recording that you need depending on the protocol.

- soffid-pasr-ssh
- soffid-pasr-rdp
- soffid-pasr-jdbc

- soffid-pasr-http
- soffid-pasr-https
- soffid-pasr-tn5250
- soffid-pasr-kube

Examples

Linux

```
docker pull soffid/soffid-pasr-ssh
```

Windows

```
docker pull soffid/soffid-pasr-rdp
```

To save a Web session you will need to add some parameters to the launcher system.properties (/opt/soffid/tomee/conf/system.properties)

Parameters to add:

```
SOFFID_PAM_PARAMS_http=--shm-size=1024m --privileged -eVNCSERVER=yes  
SOFFID_PAM_PARAMS_https=--shm-size=1024m --privileged -eVNCSERVER=yes
```

(*) https://en.wikipedia.org/wiki/Jump_server

Installing PAM using Kubernetes

How to install PAM using Kubernetes

PAM Jump Server Installation

The purpose of this tutorial is to show how to install Jump servers and configure PAM using Kubernetes, to use critical resources without knowing the password required.

Jump Server

“ A jump server, jump host or jump box is a system on a network used to access and manage devices in a separate security zone. A jump server is a hardened and monitored device that spans two dissimilar security zones and provides a controlled means of access between them. (*)

Installation

1. Execute the Store YAML

```
apiVersion: v1
kind: PersistentVolumeClaim
metadata:
  namespace: iam
  name: pam-storage
spec:
  accessModes:
    - ReadWriteOnce
  resources:
    requests:
      storage: 10Gi
---
apiVersion: apps/v1
kind: Deployment
metadata:
```

```
name: pam-store
namespace: iam
labels:
  app: pam-store
spec:
  strategy:
    rollingUpdate:
      maxSurge: 0
      maxUnavailable: 1
    type: RollingUpdate
  replicas: 1
  selector:
    matchLabels:
      app: pam-store
  template:
    metadata:
      labels:
        app: pam-store
    spec:
      restartPolicy: Always
      containers:
        - name: pam-store
          image: soffid/pam-store:1.4.31
          volumeMounts:
            - name: data
              mountPath: /opt/soffid/tomee/data
          ports:
            - containerPort: 8080
      volumes:
        - name: data
          persistentVolumeClaim:
            claimName: pam-storage
      imagePullSecrets:
        - name: regcred
  ---
kind: Service
apiVersion: v1
metadata:
  name: pam-store-service
```

```
namespace: iam
spec:
  selector:
    app: pam-store
  ports:
    - name: http
      port: 8080
      protocol: TCP
```

2. Create a user in the Store to use it in the Launcher

Once, we are connected to the Store, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type launcher in the role parameter.

```
root@soffid-pam-store:/# /opt/soffid/tomee/bin/add-user.sh launcher001 launcher
Password: xxxxxx+JJnLIRtcBIGj+qQGyNHYR4zhkl7HucBsxxx04zQ7cccc3333
root@soffid-pam-store:/#
```

As a result of the script, we receive the password for the created user. This password will be needed later when we create the launcher container.

3. Create a user in the Store to use it in the Console

Once, we are connected to the Store, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type console in the role parameter.

```
root@soffid-pam-store:/# /opt/soffid/tomee/bin/add-user.sh userconsole console
Password: dddddd+JJnLIRtcBIGj+qQGyNHYR4zhkl7HucBsxxx04zQ7cccaaaawwww
root@soffid-pam-store:/#
```

As a result of the script, we receive the password for the created user. This password will be needed later when we configure PAM in the Soffid Console.

4. Execute the Launcher YAML

YAML example to create the Launcher using traefik as Ingress Controller

```
apiVersion: v1
kind: ServiceAccount
metadata:
  namespace: iam
  name: pam-launcher
---
kind: Role
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: pam-launcher
  namespace: iam
rules:
  - verbs:
      - get
      - update
      - create
      - delete
      - list
      - watch
    apiGroups:
      - ""
    resources:
      - pods/attach
      - pods/log
      - pods
---
kind: RoleBinding
apiVersion: rbac.authorization.k8s.io/v1
metadata:
  name: pam-launcher
  namespace: iam
subjects:
  - kind: ServiceAccount
    name: pam-launcher
roleRef:
  apiGroup: rbac.authorization.k8s.io
  kind: Role
  name: pam-launcher
```

apiVersion: apps/v1

kind: Deployment

metadata:

name: pam-launcher

namespace: iam

labels:

role: pam-launcher

spec:

strategy:

rollingUpdate:

maxSurge: 0

maxUnavailable: 1

type: RollingUpdate

replicas: 1

selector:

matchLabels:

role: pam-launcher

template:

metadata:

labels:

role: pam-launcher

spec:

serviceAccountName: pam-launcher

restartPolicy: Always

containers:

- name: pam-launcher

image: soffid/pam-launcher:latest

imagePullPolicy: Always

volumeMounts:

- name: data

mountPath: /opt/soffid/tomee/launcher

ports:

- containerPort: 8080

env:

- name: STORE_SERVER

value: http://pam-store-service:8080

- name: STORE_USER

value: userLauncher

```
- name: STORE_PASSWORD
  value: ddddddGf14+JjnLIRtcBIgj+ddddddddd4zhkl7HucBs9eVU6wQg044444444
```

volumes:

```
- name: data
```

nfs:

```
# URL for the NFS server service
```

```
server: "YOUR_SERVER_IP"
```

```
path: /pam-launcher
```

imagePullSecrets:

```
- name: regcred
```

kind: Service

apiVersion: v1

metadata:

```
name: pam-launcher
```

```
namespace: iam
```

spec:

selector:

```
role: pam-launcher
```

ports:

```
# Open the ports required by the NFS server
```

```
# Port 2049 for TCP
```

```
- name: http
```

```
port: 8080
```

```
protocol: TCP
```

apiVersion: traefik.containo.us/v1alpha1

kind: IngressRoute

metadata:

```
name: launcher
```

```
namespace: iam
```

spec:

```
entryPoints:          # [1]
```

```
- https
```

```
routes:                # [2]
```

```
- kind: Rule
```

```
match: Host("pam-launcher.deployment.com")
```

```
priority: 10           # [4]
```

```
services:              # [8]
```



```

- kind: Service
  name: pam-launcher
  namespace: iam
  passHostHeader: true
  port: 8080 # [9]
  responseForwarding:
    flushInterval: 1ms
  scheme: http
  sticky:
    cookie:
      httpOnly: true
      name: srvrid
      secure: true
      sameSite: none
  strategy: RoundRobin
  weight: 10
tls:
  secretName: SECRET_NAME
---
# Service to locate PASR containers
apiVersion: v1
kind: Service
metadata:
  name: pasr
  namespace: iam
spec:
  selector:
    type: pasr
  clusterIP: None
  ports:
    - name: vnc # Actually, no port is needed.
      port: 5900
      targetPort: 5900
---

```

5. Configure the Console

Nombre del grupo :	<input type="text" value="pam-ssh-configuration-2"/>
Descripción :	<input type="text" value="PAM configuration ssh"/>
Nombre de usuario :	<input type="text" value="soffid.pat.lab-console-2"/>
Contraseña :	<input type="password" value="....."/>
URL :	<input type="text" value="https://soffid-pam-store-2:8443"/>
Grupo servidores de salto :	<input type="text" value="https://soffid.pat.pam-2:8082"/>
	<input type="text" value="Grupo servidores de salto"/>

 Deshacer  Aplicar cambios

Privileged Account Session Recording

Be in mind that you need to download the latest image of the required Privileged Account Session Recording that you need depending on the protocol.

- soffid-pasr-ssh
- soffid-pasr-rdp
- soffid-pasr-jdbc
- soffid-pasr-http
- soffid-pasr-https
- soffid-pasr-tn5250
- soffid-pasr-kube

To save a Web session you will need to add some parameters to the launcher system.properties (/opt/soffid/tomee/conf/system.properties)

Parameters to add:

```
SOFFID_PAM_PARAMS_http=--shm-size=1024m --privileged -eVNCSERVER=yes  
SOFFID_PAM_PARAMS_https=--shm-size=1024m --privileged -eVNCSERVER=yes
```

(*) https://en.wikipedia.org/wiki/Jump_server

Configure PAM session servers

Definition

Soffid provides the functionality that allows you to configure the Jump servers. That option is located on

Main Menu > Administration > Configure Soffid > Security settings > Configure PAM session servers

To configure that functionality is mandatory to install PAM following the instructions of the [PAM installation page](#).

A Jump server is the control point that forces users to log into that system first, then, they could traverse to other servers without having to log in again. The purpose of a jump server is to be the only gateway for access to your infrastructure reducing the size of any potential attack surface.

Screen overview

<https://www.youtube.com/embed/iABzqU40Pws?rel=0>

Related objects

- **soffid-pam-store**: storage server container
- **soffid-pam-launcher**: launcher container

Standard attributes

- **Group name:** name to identify the configuration.
- **Description:** a brief description.
- **User name:** user name given at installation of PAM
- **Password:** password given at installation of PAM.
- **URL:** of the storage. The default port is 8081.
- **Jump servers:** list of jump servers. A URL of each jump server. The default port is 8082.

Actions

Add new	Allows you to add a new configuration of PAM. You can choose that option by clicking the add button (+). You must fill in all the attributes to save a new configuration.
Delete	Allows you to delete one or more configuration PAM registers, you must select one or more records from the list and click the button with the subtraction symbol (-). To perform that action, Soffid will ask you for confirmation, you could confirm or cancel the operation.
Apply changes	Allows you to create a new configuration PAM or to update an existing one. To save the data it will be mandatory to fill in the required fields. Also, the password and user name should be correct to connect.
Undo	Allows you to quit without applying any changes made.

SSH gateway

SSH Gateway Docker Installation

Introduction

Soffid allows you to deploy a new docker container with the **ssh gateway**. The configuration is similar to the sync server configuration, the main difference is the ssh container is listening in ssh.

Prerequisites

The SSH Service is only released as a docker service.

1. Install docker (<https://docs.docker.com/install/>)
2. Install Soffid PAM (store container and launcher container)

You can visit the [PAM Jump Server Installation page](#) for more information about how to install PAM

3. Create a Docker network(*), that network allows you to connect containers to the same bridge network to communicate:

```
sudo docker network create -d bridge NETWORKNAME
```

* You can use the same network defined in the Console and Sync Server installation to avoid visibility problems.

Installation

The steps required to install SSH container are:

1. Create a user

We need to create a user in the pam store container. To do this, we need to connect to the store container.

```
sudo docker exec -it soffid-pam-store /bin/bash
```

Once, we are connected to the container, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type launcher in the role parameter

```
root@soffid-pam-store:/# /opt/soffid/tomee/bin/add-user.sh proxysstest launcher
Password: c4ZRcmgemq3nMr1VQJCD1pJRhPbdX5hrmmrP6RX7zBE4HSs3RV3+cGwDdL1WaaqZ
root@soffid-pam-store:/#
```

As a result of the script, we receive the password for the created user. This password will be needed later when we create the container.

2. Create volume

We need to create a volume that will be used by the docker container

```
sudo docker volume create soffid-ssh
```

3. Create a docker container

Finally, we need to execute the command to create the ssh gateway container

```
docker run \
--name soffid-ssh \
-e SOFFID_SERVER=https://iam-sync.soffidnet:1760 \
-e SOFFID_USER=admin \
-e SOFFID_PASS=changeit \
-e SOFFID_HOSTNAME=ssh-gateway \
-e STORE_SERVER=http://soffid-pam-store:8080 \
-e STORE_PASSWORD=kDH0vh8MFWWn843Vhzmj0Np7uzMEfbqFYM1ELCQqOf++tF0xfd=Ve2eGq81OXvqy \
-e STORE_USER=proxysstest \
-v soffid-ssh:/opt/soffid/iam-sync/conf \
```

```
--publish 2222:22 \  
--network=soffidnet \  
soffid/pam-ssh:1.4.2
```

Environment Variables

To create the new SSH container you need to set the following environment variables:

Variable	Description	Example
SOFFID_SERVER	Sync Server URL	https://syncserver01.soffid.com:1760
SOFFID_USER	Soffid user to join the security domain	admin
SOFFID_PASSWORD	Soffid user password	changeit
SOFFID_HOSTNAME	The hostname used to access the ssh gateway	ssh-gateway
STORE_SERVER	Store URL	http://soffid-pam-store:8080
STORE_PASSWORD	Password received when you created the user in the store container.	*****
STORE_USER	Store user	proxyssh

SSH Gateway Docker Compose Installation

Introduction

Soffid allows you to deploy a new docker container with the **ssh gateway**. The configuration is similar to the sync server configuration, the main difference is the ssh container is listening in ssh.

Prerequisites

The SSH Service is only released as a docker service.

1. Install docker (<https://docs.docker.com/install/>)
2. Install docker compose (<https://docs.docker.com/compose/install/>)
3. Install Soffid PAM (store container and launcher container)

You can visit the [PAM Jump Server Installation page](#) for more information about how to install PAM

Installation

The steps required to install SSH container are:

1. Create a user

We need to create a user in the pam store container. To do this, we need to connect to the store container.


```
sudo docker exec -it soffid-pam-store /bin/bash
```

Once, we are connected to the container, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type launcher in the role parameter

```
root@soffid-pam-store:/# /opt/soffid/tomee/bin/add-user.sh proxyssh-user launcher
Password: c4ZRcmgemq3nMr1VQJCD1pJRhPbdX5hrmmrP6RX7zBE4HSs3RV3+cGwDdL1WaaqZ
root@soffid-pam-store:/#
```

As a result of the script, we receive the password for the created user. This password will be needed later when we create the container.

2. Execute the YAML

```
version: '3.8'

services:
  ssh-gateway:
    image: soffid/pam-ssh:1.4.47
    environment:
      SOFFID_SERVER: https://syncserver01.soffid.com:1760
      SOFFID_USER: soffidUser
      SOFFID_PASS: SoffidPassword
      SOFFID_HOSTNAME: ssh-gateway
      STORE_SERVER: https://soffid-pam-store:8443
      STORE_PASSWORD: c4ZRcmgemq3nMr1VQJCD1pJRhPbdX5hrmmrP6RX7zBE4HSs3RV3+cGwDdL1WaaqZ
      STORE_USER: proxyssh-user
    ports:
      - "2222:22"
    networks:
      - network
    volumes:
      - ssh-gateway-data:/opt/soffid/iam-sync/conf

networks:
  network:
    name: netcompose
    driver: bridge

volumes:
```

ssh-gateway-data:

name: compose-ssh-gateway-data

Execute:

```
sudo docker compose up -d
```

Environment Variables

To create the new SSH container you need to set the following environment variables:

Variable	Description	Example
SOFFID_SERVER	Sync Server URL	https://syncserver01.soffid.com:1760
SOFFID_USER	Soffid user to join the security domain	admin
SOFFID_PASSWORD	Soffid user password	*****
SOFFID_HOSTNAME	The hostname used to access the ssh gateway	ssh-gateway
STORE_SERVER	Store URL	http://soffid-pam-store:8080
STORE_PASSWORD	Password received when you created the user in the store container.	*****
STORE_USER	Store user	proxyssh

SSH Gateway Connection

Introduction

We can establish a connection to the target system using the SSH remote access protocol.

How to connect 1

You can establish the connection with the ssh gateway and then Soffid will ask your password and the target system parameters to connect:

- **Password:** password of your account to connect to Soffid.
- **Target server:** system to which you want to connect.
- **Account to use:** account to use to connect to the target system.
- **Account source system**

```
root@soffid:~# ssh -p 2222 dilbert@ssh-gateway
```

Password:

Target server: 10.129.120.5

Account to use: patricia

Account source system [leave blank to use a target system local account]:

```
_____
|           _           |
|          _/          |
| _ _ _/_/_|_° _|      | | | |
| |_ / \ | | | / |      |
| _|\_/ | | | \_/ SSH GATEWAY |
|          _/          |
|                   |
| Hello dilbert      |
| NOTICE: This session is being recorded |
|_____|
```

Connecting to 10.129.120.5 as patricia

Last login: Fri Apr 8 08:39:23 2022 from 10.129.120.6

[patricia@forgecentos ~]\$

How to connect 2

You can establish the connection with the target system typing all the parameters to connect in one line AccountName__HostName__TargetAccount. At the end, Soffid will ask the password of your account to connect.

- **Account name:** account to connect to Soffid.
- **Host name:** target system to which you want to connect.
- **Target account:** account to connect to the target system.
- **Password:** password of your account to connect to Soffid.

```
root@soffid:~# ssh -p 2222 dilbert_10.129.120.5__patricia@ssh-gateway
```

Password:

```
|      _      |
|      _/    |      | | | | | | |
| _ _ _/_|_o_|      |
|_|_/_\|_|_|_|_|_|_|
|_|_/_\|_|_|_|_|_|_| SSH GATEWAY |
|      _/      |
|              |
| Hello dilbert      |
| NOTICE: This session is being recorded |
|_____|
```

Connecting to 10.129.120.5 as patricia

Last login: Fri Apr 8 09:57:22 2022 from 10.129.120.6

[patricia@forgecentos ~]\$

How to connect 3

You can establish the connection with the target system typing all the parameters to connect in one line AccountName__HostName__TargetAccount and using a ssh key.

- **Account name:** account to connect to Soffid.
- **Host name:** target system to which you want to connect.
- **Target account:** account to connect to the target system.

You can generate an ssh key to connect or use your existing ssh key.

- Generate a new ssh key: `ssh-keygen -t rsa`
- Read an existing ssh key: `cat .ssh/id_rsa.pub`

Then you need to include it in Soffid Console in your user data.

Finally you can establish the connection.

```
pgarcia@soffid:~$ ssh -p 2222 pgarcia_10.129.120.5_patricia@ssh-gateway
```

```
_____
|      _      |
|      _/    |
| _ _ _/_|_° _| | | |
| |_ / \ | | / |
| _|\_/ | | |\_/ SSH GATEWAY |
|      _/      |
|              |
| Hello pgarcia |
| NOTICE: This session is being recorded |
|_____|
```

Connecting to 10.129.120.5 as patricia

Last login: Fri Apr 8 11:57:19 2022 from 10.129.120.6

[patricia@forgecentos ~]\$

Soffid needs the **ssh_key** attribute in the user object metadata, please check the attribute is created properly, and the fill in with your public key.

Object type : com.soffid.iam.api.User

Description : Builtin user object

▼ Order	Code
Filter	Filter
28	__AUDIT__
29	createdByUser
30	createdDate
31	modifiedByUser
32	modifiedDate
33	RegisterServiceProvider
34	ActivationKey
35	__OTHER DATA__
36	language
37	country
38	Color
104	office
104	company
105	IAMIndicator
9999	ssh_key

Attribute metadata

Attribute metadata ◀ 42 / 42

Code : ssh_key

Label : SSH Public key

Data type: String ▼

User hint : User hint

Description : Description

Required : ☒ NoInclude in quick search : ☒ NoPrevent duplicated values : ☒ NoMultiple values : ☒ Yes ☒ No

Maximum number of rows to display :

Maximum number of rows to display

Size :

Size

Values :

Values

Administrator visibility : Read only ▼

Operator visibility : Read only ▼

User visibility : Read/write ▼

Visibility expression : Visibility expression

Common attributes

User name : pgarcia

First name : patricia

Last Name : garcia

Middle name : Middle name

Full name : patricia garcia

Birth date : 5/3/80

Mail service

Internal eMail : Internal eMail

Mail alias : Mail alias

External email : External email

Mail server : Mail server

User status

Enabled : ☒ No ☒ Yes

Multi session : ☒ No ☒ Yes

Comments : Comments

OTHER DATA

SSH Public key : ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGCfuHHJovqlwybPULgkxhK8fR3U0Ymetok980k3lnJNCI

Organization

Type : Internal user

Primary group : admingroup OU=admingroup,DC=testora,DC=lab

Home server : Home server

Profile server : Profile server

Manager : Manager

Contract type :

Fotografia :

Other

NIF : NIF

PHONE :

Audit information

Created by : admin Soffid Administrator

Created on : 5/31/21 14:16

Modified by : admin Soffid Administrator

Modified last on : 4/8/22 10:13

RegisterServiceProvider : RegisterServiceProvider

ActivationKey : ActivationKey

https://es.wikipedia.org/wiki/Secure_Shell

RDP gateway

RDP Gateway Docker Installation

Introduction

Soffid allows you to deploy a new docker container with the **RDP gateway**. The configuration is similar to the sync server configuration.

Prerequisites

The RDP Service is only released as a docker service.

1. Install docker (<https://docs.docker.com/install/>)
2. Install Soffid PAM (store container and launcher container)

You can visit the [PAM Jump Server Installation page](#) for more information about how to install PAM

3. Create a Docker network(*), that network allows you to connect containers to the same bridge network to communicate:

```
sudo docker network create -d bridge NETWORKNAME
```

* You can use the same network defined in the Console and Sync Server installation to avoid visibility problems.

Installation

The steps required to install RDP container are:

1. Create a user

We need to create a user in the pam store container. To do this, we need to connect to the store container.

```
sudo docker exec -it soffid-pam-store /bin/bash
```

Once, we are connected to the container, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type launcher in the role parameter

```
root@soffid-pam-store:/# /opt/soffid/tomee/bin/add-user.sh proxyrdptest launcher
Password: c4ZRcmgemq3nMr1VQJCD1pJRhPbdX5hrmmrP6RX7zBE4HSs3RV3+cGwDdL1WaaqZ
root@soffid-pam-store:/#
```

As a result of the script, we receive the password for the created user. This password will be needed later when we create the container.

2. Create volume

We need to create a volume that will be used by the docker container

```
sudo docker volume create soffid-rdp
```

3. Create a docker container

Finally, we need to execute the command to create the rdp gateway container

```
docker run \
  --name soffid-rdp \
  -e SOFFID_SERVER=https://iam-sync.soffidnet:1760 \
  -e SOFFID_USER=admin \
  -e SOFFID_PASS=changeit \
  -e SOFFID_HOSTNAME=rdp-gateway \
  -e STORE_SERVER=http://soffid-pam-store:8080 \
  -e STORE_PASSWORD=/Dp77Kho5QB2vVKjNNGmXYLzVa6PoPWJ8p0E407EP++9/ZM+I3cieGKMRSgOnFCMc \
  -e STORE_USER=proxyrdp \
  -v soffid-rdp:/opt/soffid/iam-sync/conf \
  --privileged \
  --shm-size=1024m \
```

```
-p 3389:3389 \
--network=soffidnet.intenal \
soffid/pam-rdp:1.4.2
```

Environment Variables

To create the new SSH container you need to set the following environment variables:

Variable	Description	Example
SOFFID_SERVER	Sync Server URL	https://syncserver01.soffid.com:1760
SOFFID_USER	Soffid user to join the security domain	admin
SOFFID_PASSWORD	Soffid user password	changeit
SOFFID_HOSTNAME	The hostname used to access the ssh gateway	ssh-gateway
STORE_SERVER	Store URL	http://soffid.pat.pam:8082
STORE_PASSWORD	Password received when you created the user in the store container.	*****
STORE_USER	Store user	proxyrdp

RDP Gateway Docker Compose Installation

Introduction

Soffid allows you to deploy a new docker container with the **RDP gateway**. The configuration is similar to the sync server configuration.

Prerequisites

The RDP Service is only released as a docker service.

1. Install docker (<https://docs.docker.com/install/>)
2. Install docker compose (<https://docs.docker.com/compose/install/>)
3. Install Soffid PAM (store container and launcher container)

You can visit the [PAM Jump Server Installation page](#) for more information about how to install PAM

Installation

The steps required to install RDP container are:

1. Create a user

We need to create a user in the pam store container. To do this, we need to connect to the store container.

```
sudo docker exec -it soffid-pam-store /bin/bash
```

Once, we are connected to the container, we need to run a script to create the user. This script has two parameters, the user name, and the role. We have to type launcher in the role parameter

```
root@soffid-pam-store:/# /opt/soffid/tomee/bin/add-user.sh proxyrdp-user launcher
Password: c4ZRcmgemq3nMr1VQJCD1pJRhPbdX5hrmmrP6RX7zBE4HSs3RV3+cGwDdL1WaaqZ
root@soffid-pam-store:/#
```

As a result of the script, we receive the password for the created user. This password will be needed later when we create the container.

2. Execute the YAML

```
version: '3.8'

services:
  ssh-gateway:
    image: soffid/pam-rdp:1.4.47
    environment:
      SOFFID_SERVER: https://syncserver01.soffid.com:1760
      SOFFID_USER: admin
      SOFFID_PASS: admin123
      SOFFID_HOSTNAME: rdp-gateway-2
      STORE_SERVER: https://soffid-pam-store:8443
      STORE_PASSWORD: c4ZRcmgemq3nMr1VQJCD1pJRhPbdX5hrmmrP6RX7zBE4HSs3RV3+cGwDdL1WaaqZ
      STORE_USER: proxyrdp
    ports:
      - "2222:22"
    networks:
      - network
    volumes:
      - rdp-gateway-data:/opt/soffid/iam-sync/conf

networks:
  network:
    name: netcompose
    driver: bridge
```

volumes:

rdp-gateway-data:

name: compose-rdp-gateway-data

Execute:

```
sudo docker compose up -d
```

Environment Variables

To create the new SSH container you need to set the following environment variables:

Variable	Description	Example
SOFFID_SERVER	Sync Server URL	https://syncserver01.soffid.com:1760
SOFFID_USER	Soffid user to join the security domain	admin
SOFFID_PASSWORD	Soffid user password	changeit
SOFFID_HOSTNAME	The hostname used to access the ssh gateway	ssh-gateway
STORE_SERVER	Store URL	http://soffid.pat.pam:8082
STORE_PASSWORD	Password received when you created the user in the store container.	*****
STORE_USER	Store user	proxyrdp

RDP Gateway Connection

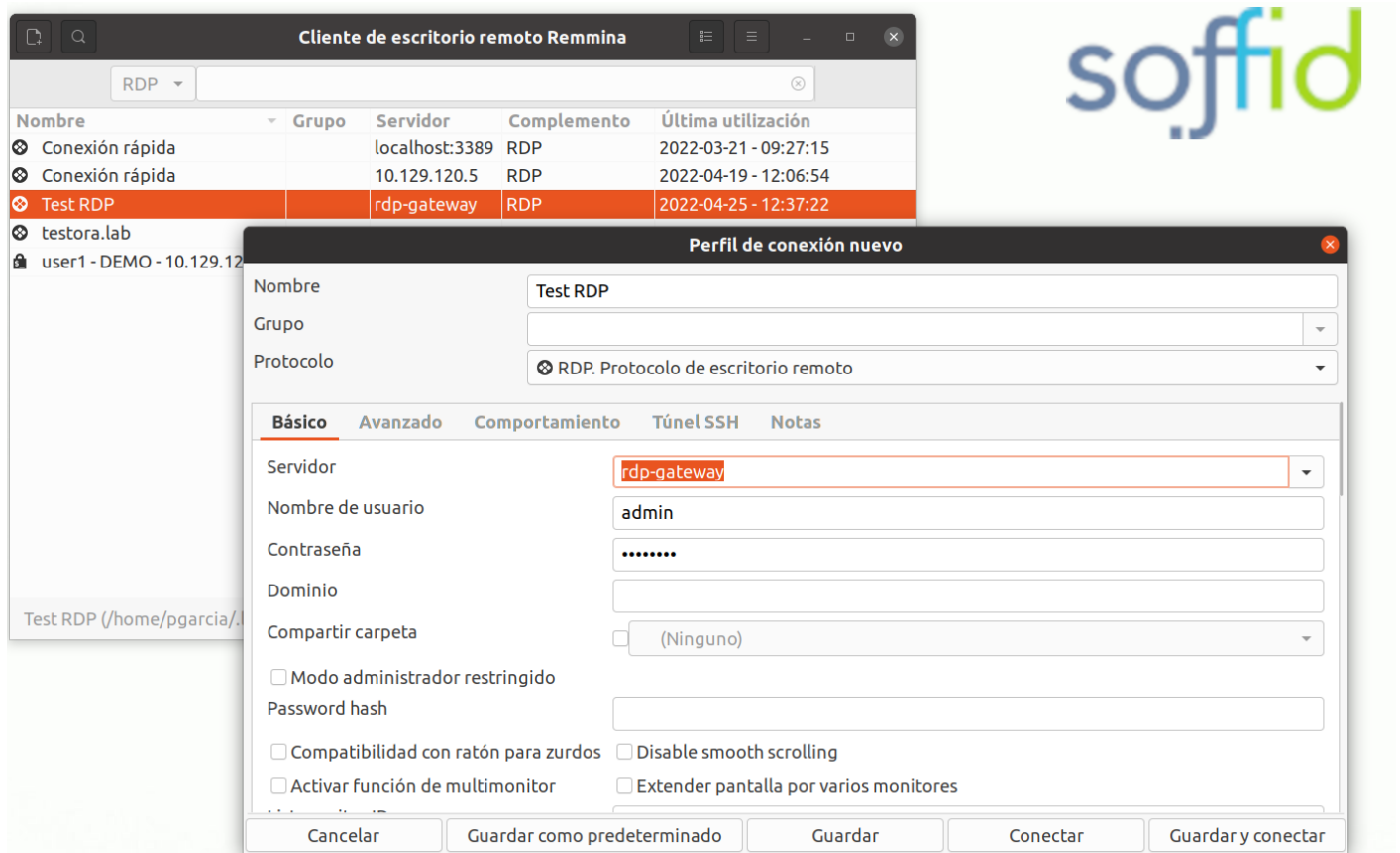
Introduction

We can establish a connection to the target system using the RDP remote access protocol. You can use a remote desktop client.

How to connect


You can establish the connection with the ssh gateway using a desktop client and then Soffid will ask you the parameters to connect:

- **System name:** system to which you want to connect.
- **Account name:** Soffid's account.
- **Account system:** account to use to connect to the target system.



Soffid PAM RDP Gateway

×



Enter the system to connect and the account to use

System name:

10.129.121.100

Account name:

pgarcia

Account system:

pgarcia|

Accept

Cancel

https://es.wikipedia.org/wiki/Remote_Desktop_Protocol

☐☐ To bear in mind

If you are working with Mozilla Firefox, it will be possible that this message will be displayed.
To solve it, you must allow the pop-up windows

The screenshot shows a Firefox browser window with the address bar displaying `https://demolab.woffid.pat.lab:8080/woffid/resource/account/vault.zul`. A notification bar at the top states: "Firefox ha impedido que este sitio abriera una ventana emergente." (Firefox has prevented this site from opening a pop-up window). Below the notification bar, the "soffid" logo and a search bar are visible. The breadcrumb navigation shows: [Main Menu](#) > [Administration](#) > [Resources](#) > [Password vault](#) < 8 / 10 >. The page content is divided into two tabs: "Actions" (selected) and "Basics". Under the "Actions" tab, there is a table with the following data:

Name :	9
Description :	MV - pgarcia - Ubuntu 2 --> Connect
System :	SSO - External SSO accounts
Login name :	pgarcia
Login url :	ssh://192.168.122.167
In use by :	

Below the table, there are three buttons: "Launch", "View password", and "Set now". A warning dialog box is displayed over the "Set now" button, titled "Warning: An error occurred" with the message "Failed to process script" and a "close" button.

The screenshot shows the same Firefox browser window as above, but with a permission dialog box open. The dialog is titled "Permisos para demolab.woffid.pat.lab" and contains the following text:

- ☒ Abrir ventanas emergentes
- ☐ Bloquear

Below the list, it says "Abrir 1 ventana emergente bloqueada...". The "Warning: An error occurred" dialog box is still visible over the "Set now" button.

← → ↻

https://demolab.soffid.pat.lab:8080/soffid/resource/account/vault.zul

soffid

Permisos para demolab.soffid.pat.lab

Search

⌵

Abrir ventanas emergentes

Permitir ▾

⌵

Abrir 1 ventana emergente bloqueada...

Main Menu > Administration > Resources

Actions Basics

Name :

9

Description :

MV - pgarcia - Ubuntu 2 --> Connect

System :

SSO - External SSO accounts

Login name :

pgarcia

Login url :

ssh://192.168.122.167

In use by :

Warning: An error occurred

Failed to process script

close

Launch

View password

Set now

Cannot retrieve password for account

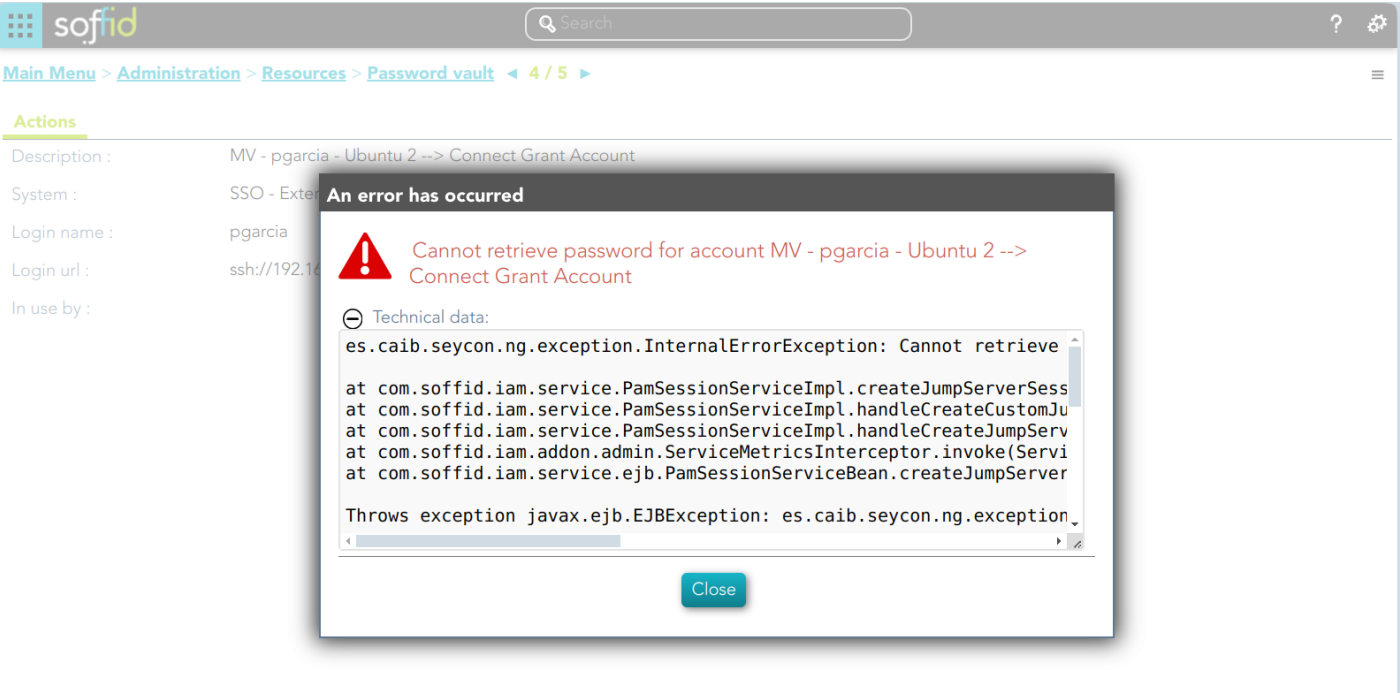
Error

Description

Cannot retrieve the password for the account



Screen overview



Log

```
es.caib.seycon.ng.exception.InternalErrorException: Cannot retrieve password for account MV - pgarcia - Ubuntu
2 --> Connect Grant Account
[]
at com.soffid.iam.service.PamSessionServiceImpl.createJumpServerSession(PamSessionServiceImpl.java:189)[]
at
com.soffid.iam.service.PamSessionServiceImpl.handleCreateCustomJumpServerSession(PamSessionServiceImpl.j
ava:802)[]
at
com.soffid.iam.service.PamSessionServiceImpl.handleCreateJumpServerSession(PamSessionServiceImpl.java:14
4)[]
at com.soffid.iam.addon.admin.ServiceMetricsInterceptor.invoke(ServiceMetricsInterceptor.java:36)[]
at
com.soffid.iam.service.ejb.PamSessionServiceBean.createJumpServerSession(PamSessionServiceBean.java:77)[]..
76 more
```

Throws exception javax.ejb.EJBException: es.caib.seycon.ng.exception.InternalErrorException: Cannot retrieve password for account MV - pgarcia - Ubuntu 2 --> Connect Grant Account

```
[]
at
com.soffid.iam.service.ejb.PamSessionServiceBean.createJumpServerSession(PamSessionServiceBean.java:84)[]..
57 more
```

Throws exception javax.ejb.EJBException: The bean encountered a non-application exception; nested exception is:

```
[]javax.ejb.EJBException: es.caib.seycon.ng.exception.InternalErrorException: Cannot retrieve password for
account MV - pgarcia - Ubuntu 2 --> Connect Grant Account
[]
at com.soffid.iam.web.vault.LaunchHelper.launchPamAccount(LaunchHelper.java:69)[]
at com.soffid.iam.web.vault.LaunchHelper.launchAccount(LaunchHelper.java:60)[]
at com.soffid.iam.web.account.VaultHandler.launch(VaultHandler.java:649)[]
at com.soffid.iam.web.interp.RefInterpreter.exec(RefInterpreter.java:75)[]... 48 more
```

Throws exception org.zkoss.zk.ui.UiException: javax.ejb.EJBException: The bean encountered a non-application exception; nested exception is:

```
[]javax.ejb.EJBException: es.caib.seycon.ng.exception.InternalErrorException: Cannot retrieve password for
account MV - pgarcia - Ubuntu 2 --> Connect Grant Account
[]
at com.soffid.iam.web.interp.RefInterpreter.exec(RefInterpreter.java:101)[]
at com.soffid.addons.xacml.pep.XACMLFilter.doFilter(XACMLFilter.java:210)[]
```

```
at es.caib.bpm.filters.WorkflowInterceptor.doFilter(WorkflowInterceptor.java:183)[]  
at com.soffid.iam.filter.TenantFilter.doFilter(TenantFilter.java:79)
```

How to solve it

You need to set the password to this account