

PAM Jump Server Installation

The purpose of this tutorial is to show how to install Jump servers and configure PAM, 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. (*)

Prerequisites

The PAM Service is only released as a docker service.

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/3itVO7_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" \
  -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

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 : DRFoe0sD02yph7DERNcAZB8jp3b67b03D/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 :	<input type="text" value="http://soffid.pat.lab:8082"/> <input type="text" value="Jump servers"/>

System Monitoring

Launcher

Soffid allows you to check the status of the launcher by browsing an URL:

Request

```
https://<your-host>/launch/status
```

For instance: <http://demolab.soffid.pat.lab:8082/launch/status>

Response

```
{  
  "sessions": 0,  
  "status": "ok"  
}
```

- **status** → “ok” the process is active.
- **sessions** → number of sessions the launcher is currently managing.

Store

In order to monitor the store, you will need the user and password with the appropriate permissions to view the status URL. This username and password come from the script executed to create the PAM containers.

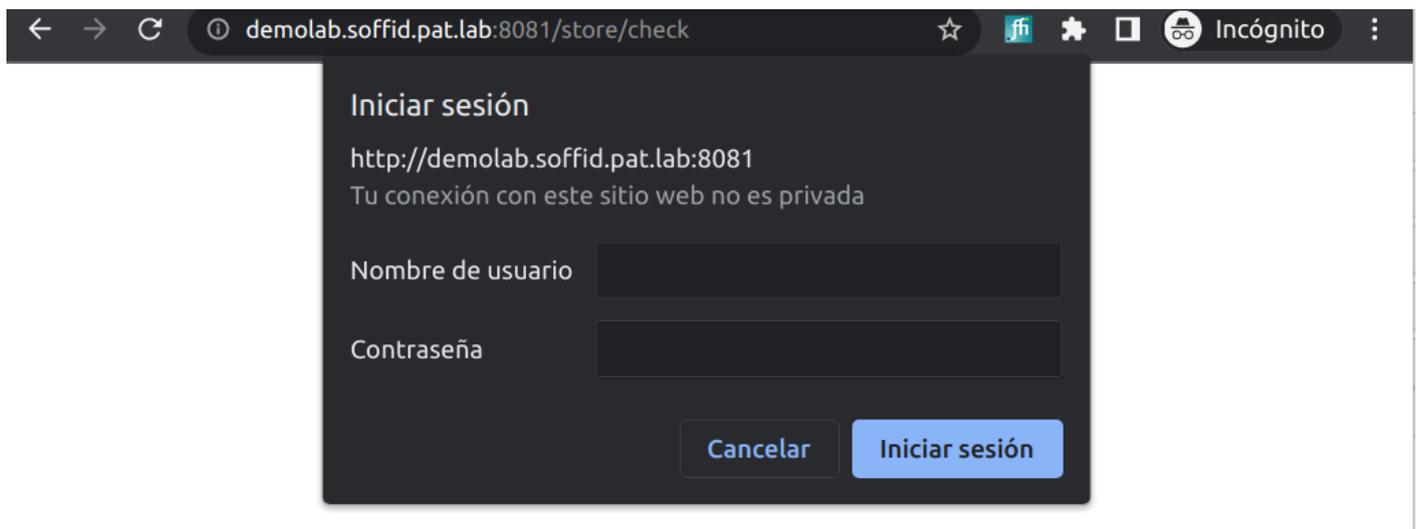
```
1 ~/Downloads$ bash ./install-pam.sh
2 =====
3 Creating store server
4 =====
5 Waiting for store server
6 Creating launch server
7 =====
8 Process completed
9 Notice: You must register the store server in Soffid console:
10 User name: bubu-thinkpad
11 Password : DRFoe0sD02yph7DERNcAZB8jp3b67b03D/Ax3uS4PbzuBnPbQLhR1lyAu9PFqRJ0
12 ~/Downloads$ docker ps
13 CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
14 854d7aff5c0a soffid/pam-launcher "/bin/sh -c /opt/sof..." 4 minutes ago Up 4 minutes 0.0.0.0:8082->80
15 7d66a3d3cfa1 soffid/pam-store "/bin/sh -c /opt/sof..." 4 minutes ago Up 4 minutes 0.0.0.0:8081->80
```

To monitor the store you need to browse the following URL:

Request

```
https://<your-host>/store/check
```

For instance: <http://demolab.soffid.pat.lab:8081/store/check>



Response

```
{
  "usedSpace": 156933901,
  "freeSpace": 161442168832,
  "status": "OK"
}
```

- **status** → "OK" the process is active.

- **usedSpace** → occupied bytes.
- **freeSpace** → free bytes.

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

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

Revision #18

Created 18 March 2022 10:03:16 by pgarcia@soffid.com

Updated 27 April 2023 10:11:21 by pgarcia@soffid.com