



Fudo PAM 4.4 - User Portal Manual

Release is not supported

Fudo Security Inc.

07.12.2023

1	About documentation	1
2	System overview	2
3	Logging into the User Portal	3
4	Checking out and checking in passwords	5
4.1	Checking out passwords	5
4.2	Checking in passwords	7
5	Displaying passwords history	8
6	Displaying and editing accounts notes	10
7	Establishing connections	12
7.1	Connecting over RDP and SSH in browser	12
7.2	Connecting over RDP on Microsoft Windows 7 and 10	14
7.3	Connecting over RDP on Mac OS X	17
7.4	Connecting over RDP on Ubuntu Linux	20
7.5	Connecting over SSH on Microsoft Windows 7 and 10	22
7.6	Connecting over SSH on Mac OS	25
8	Requesting access to safe	28
9	Authentication	30
10	Troubleshooting	31

About documentation

Conventions and symbols

This section covers conventions used throughout this documentation.

italic

Uster interface elements.

example

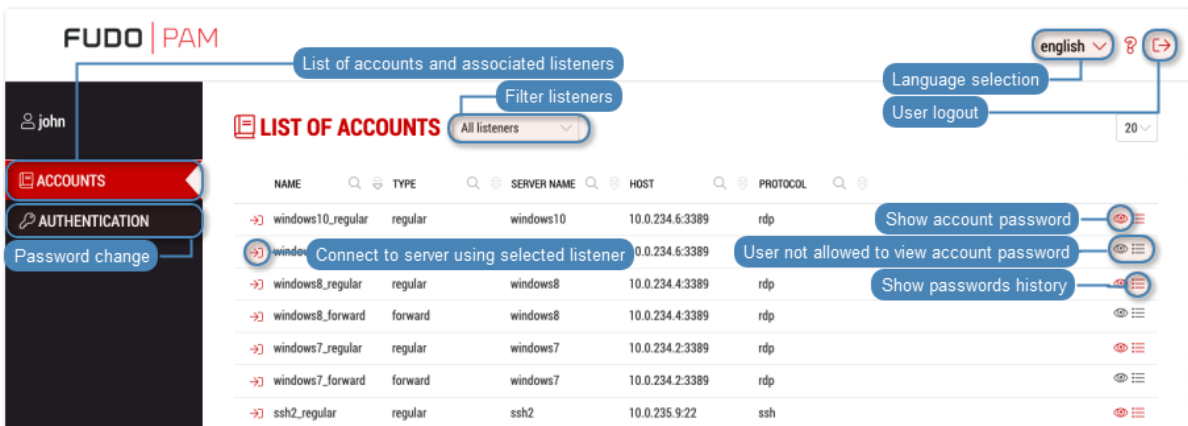
Example value of a parameter, API method name or code example.

Note: Additional information closely related with described topic, e.g. suggestion concerning given procedure step; additional conditions which have to be met.

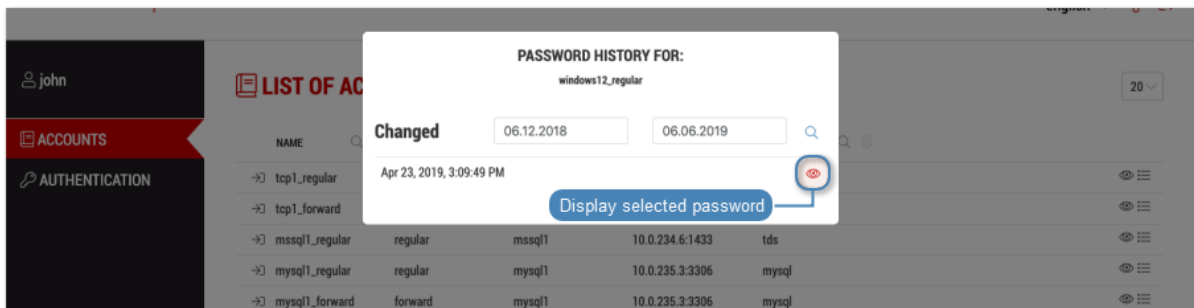
<p>Warning: Essential information concerning system's operation. Not adhering to this information may have irreversible consequences.</p>
--

System overview

User portal enables initiating connections with monitored servers available to the logged in user.



The system also enables viewing the password to selected accounts and browsing passwords history to accounts managed by FUDO's password vault module.



Logging into the User Portal

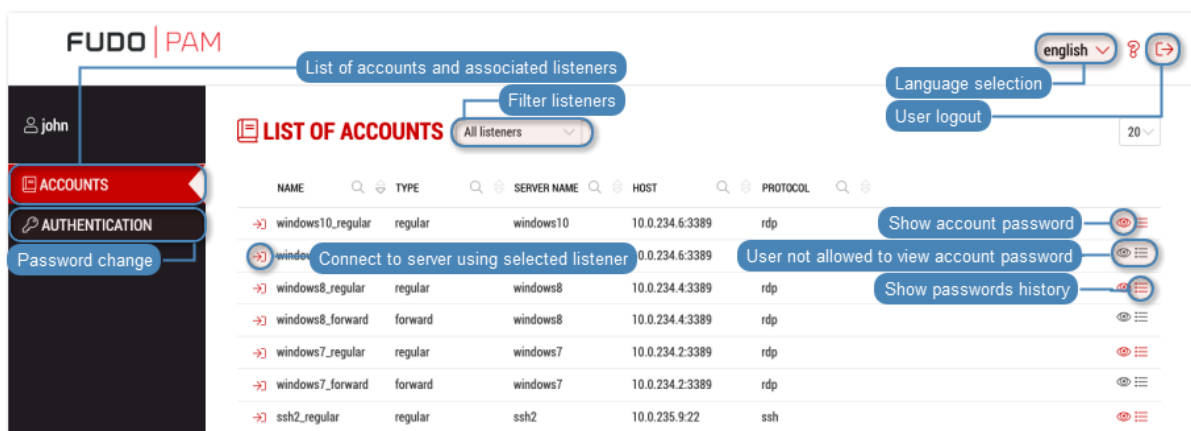
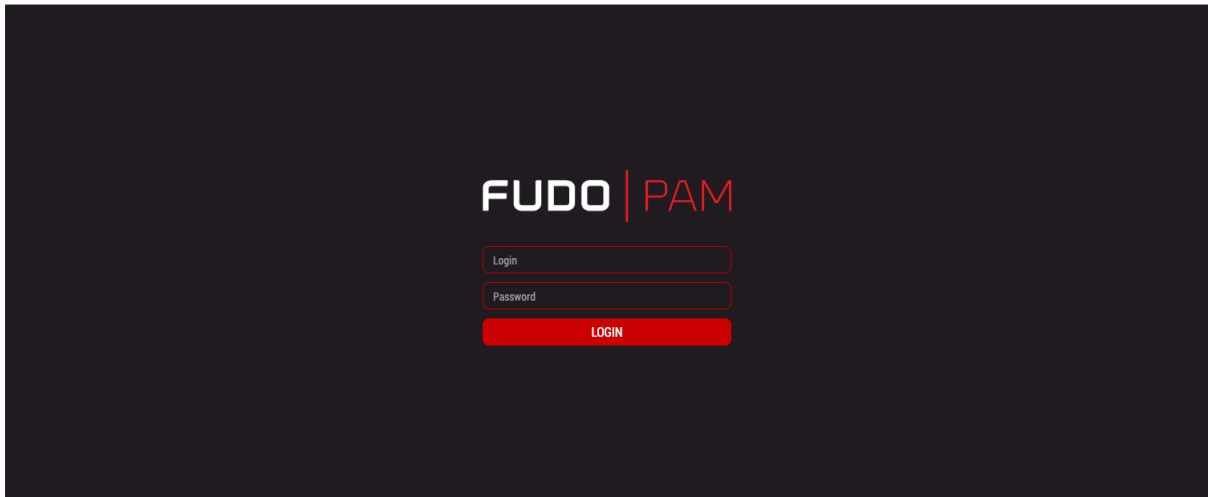
Note:

- User Portal is compatible with the following web browsers:
 - Google Chrome, Mozilla Firefox, Internet Explorer for Microsoft Windows.
 - Google Chrome, Mozilla Firefox for Ubuntu.
 - Google Chrome, Mozilla Firefox, Safari dla systemu operacyjnego Mac OS X.
- *User Portal* supports Single Sign On for Active Directory accounts. Refer to system documentation for information on how to enable the SSO in User Portal.

-
1. Open web browser and direct it to the IP address of the User Portal.

Note: You can obtain the IP address from your system administrator.

2. Accept the security alert exception to display the login page.
3. Enter the username, password and click *LOGIN*.




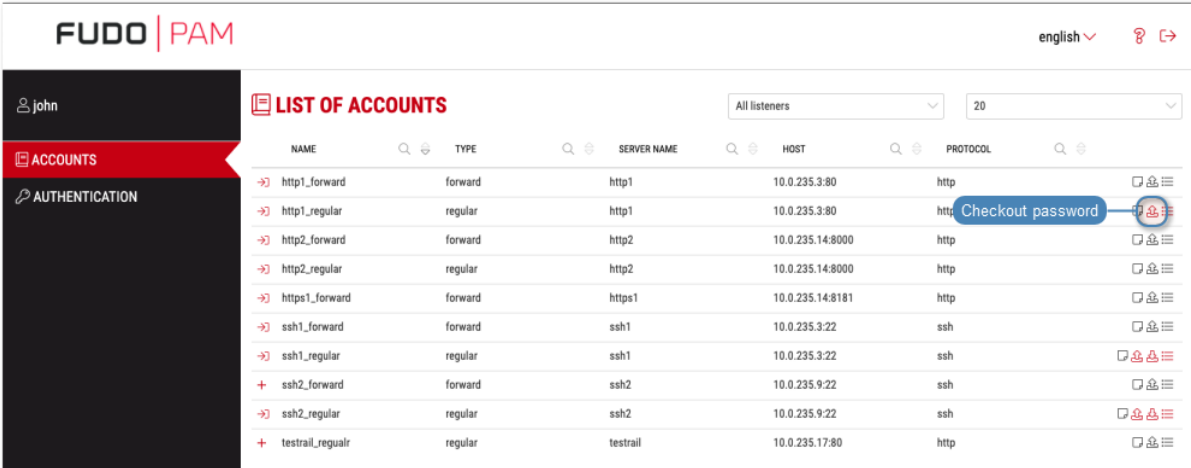
Related topics:

- *Connecting over RDP on Mac OS X*
- *Connecting over RDP on Ubuntu Linux*

Checking out and checking in passwords

4.1 Checking out passwords

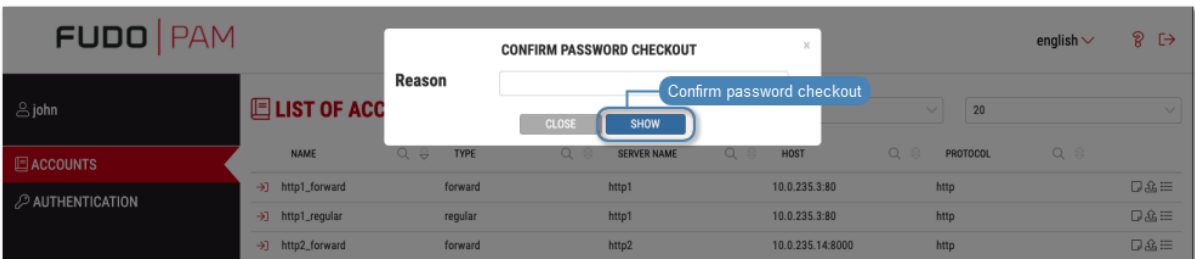
1. Select *ACCOUNTS*.
2. Find account to which password you want to view.
3. Click  icon.



The screenshot shows the FUDO PAM interface. On the left, there is a navigation menu with 'ACCOUNTS' selected. The main area displays a table titled 'LIST OF ACCOUNTS' with columns: NAME, TYPE, SERVER NAME, HOST, and PROTOCOL. The table contains several rows of account information. A blue callout box highlights the 'Checkout password' button in the rightmost column of the first row.

NAME	TYPE	SERVER NAME	HOST	PROTOCOL	
http1_forward	forward	http1	10.0.235.3:80	http	Checkout password
http1_regular	regular	http1	10.0.235.3:80	http	
http2_forward	forward	http2	10.0.235.14:8000	http	
http2_regular	regular	http2	10.0.235.14:8000	http	
https1_forward	forward	https1	10.0.235.14:8181	https	
ssh1_forward	forward	ssh1	10.0.235.3:22	ssh	
ssh1_regular	regular	ssh1	10.0.235.3:22	ssh	
ssh2_forward	forward	ssh2	10.0.235.9:22	ssh	
ssh2_regular	regular	ssh2	10.0.235.9:22	ssh	
testrail_regular	regular	testrail	10.0.235.17:80	http	

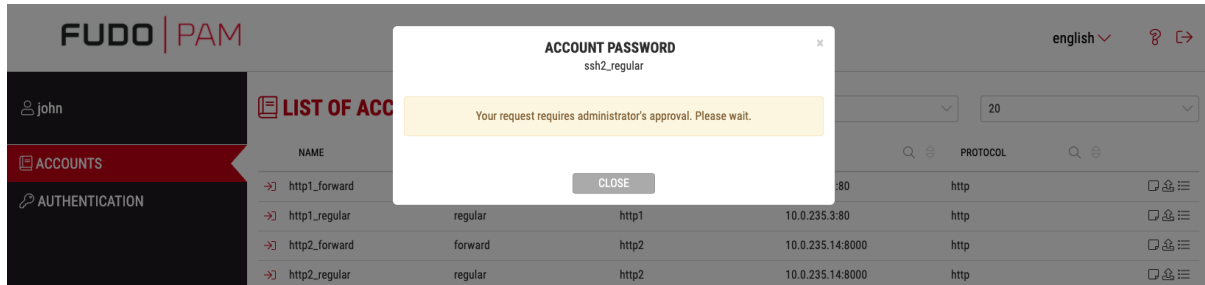
4. Enter password checkout reason and click *SHOW*.



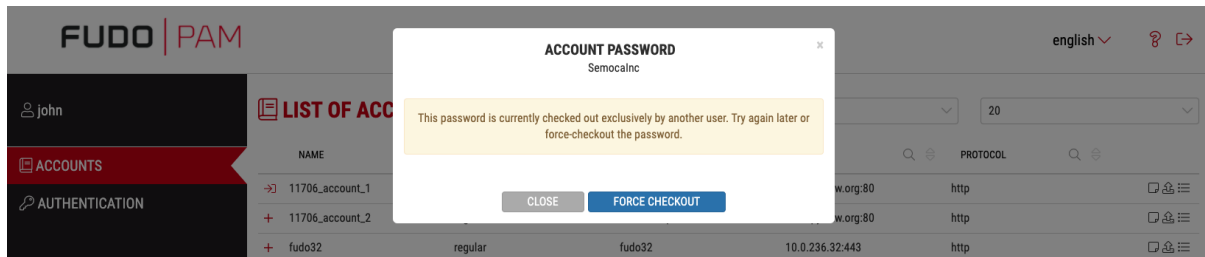
The screenshot shows the FUDO PAM interface with a 'CONFIRM PASSWORD CHECKOUT' dialog box open. The dialog box has a 'Reason' input field and a 'SHOW' button. A blue callout box highlights the 'SHOW' button.

Note:

- Prompt for password checkout reason is optional and it depends on the account configuration.
- Depending on the configuration, password checkout may require system administrator's approval.

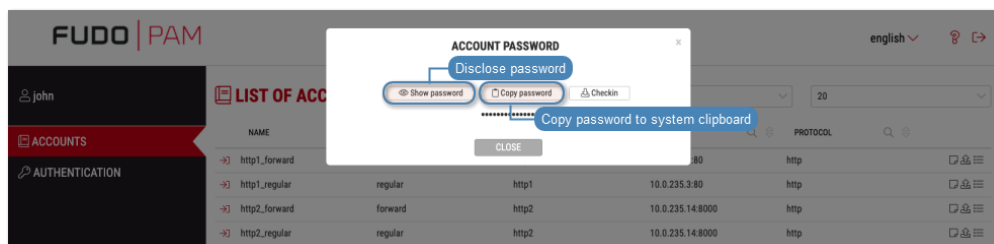


- If the password is currently checked out by another user, wait until it's checked in or use the *FORCE CHECKOUT* option.



5. Click:


- *Show password* to disclose the password.
- *Copy password* to copy the password to system clipboard.

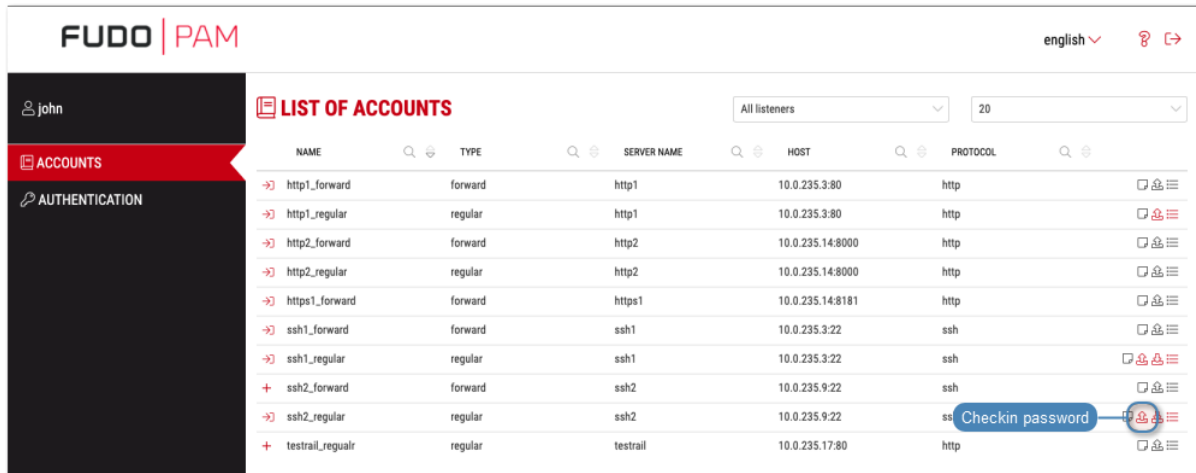


Note: A timer next to account counts down the time left before the password will be checked in automatically.

+ regular@jenkins	regular	jenkins	jenkins.fudo:443	http	
→ Semocalnc	regular	twitter	twitter.com:80	http	00:09:33
→ storefront1_forward	forward	storefront1	10.0.234.159:80	citrixsf	

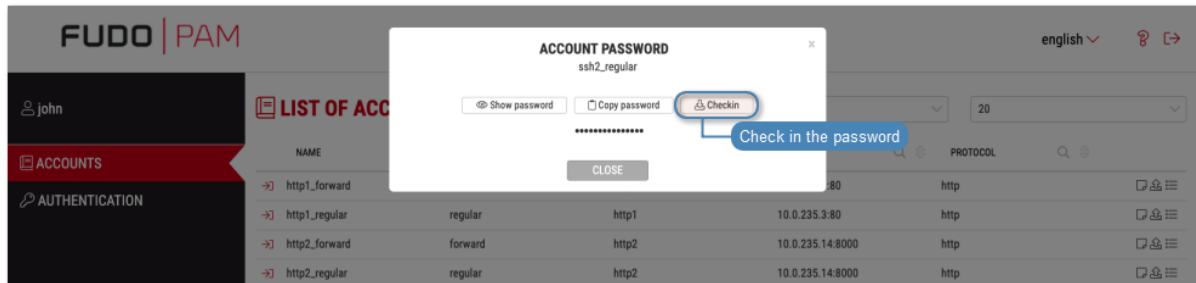
4.2 Checking in passwords

1. Select *ACCOUNTS*.
2. Find an account to which password you want to check in.
3. Click  icon.




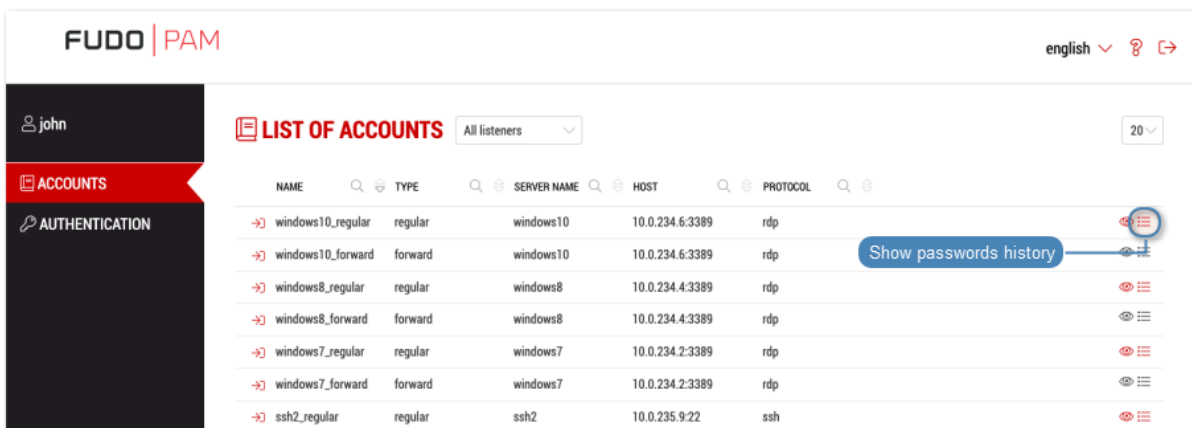
or

click the  icon to open the *ACCOUNT PASSWORD* modal window and click *Checkin*.










 Displaying passwords history

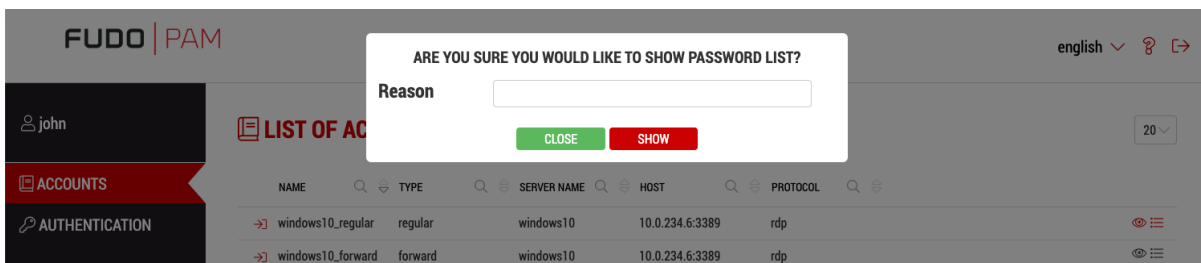
1. Select *ACCOUNTS*.
2. Find account which passwords history you want to view.
3. Click  icon.



The screenshot shows the FUDO | PAM interface. The user 'john' is logged in. The 'ACCOUNTS' section is active. A table titled 'LIST OF ACCOUNTS' displays the following data:

NAME	TYPE	SERVER NAME	HOST	PROTOCOL	
→ windows10_regular	regular	windows10	10.0.234.6:3389	rdp	
→ windows10_forward	forward	windows10	10.0.234.6:3389	rdp	 Show passwords history
→ windows8_regular	regular	windows8	10.0.234.4:3389	rdp	
→ windows8_forward	forward	windows8	10.0.234.4:3389	rdp	
→ windows7_regular	regular	windows7	10.0.234.2:3389	rdp	
→ windows7_forward	forward	windows7	10.0.234.2:3389	rdp	
→ ssh2_regular	regular	ssh2	10.0.235.9:22	ssh	

4. Provide reason for viewing passwords history and click *SHOW*.



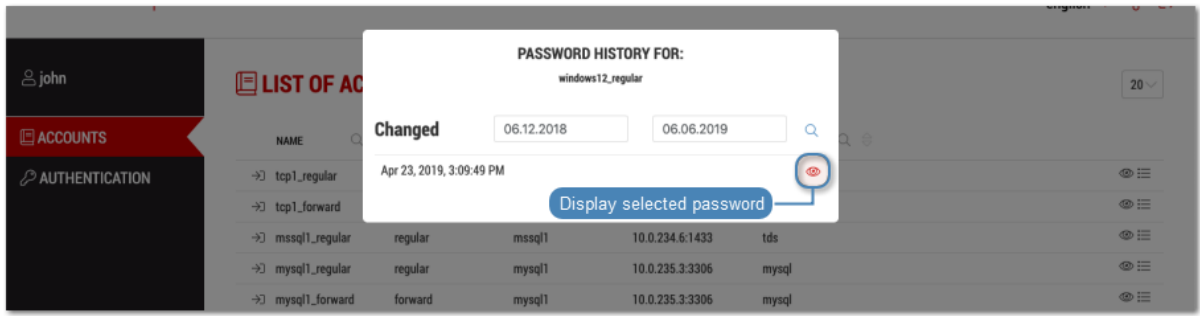
The screenshot shows the FUDO | PAM interface with a confirmation dialog box overlaid. The dialog box contains the following text:

ARE YOU SURE YOU WOULD LIKE TO SHOW PASSWORD LIST?

Reason

The background shows the 'LIST OF ACCOUNTS' table with the 'windows10_forward' account selected.


5. Click  to view selected password.

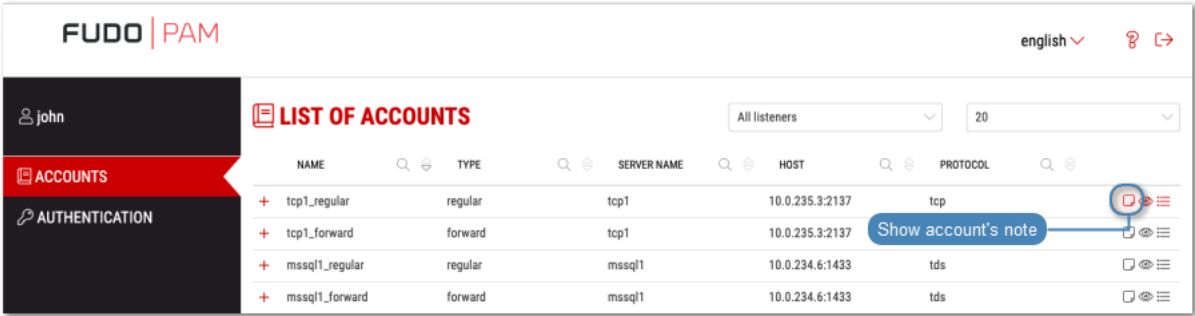


Displaying and editing accounts notes













Notes are created by the system administrator and they provide additional information on server access.

Note: Notes access is granted by the system administrator on *safe* object level. Depending on system settings, users can access notes in read-only or read and write modes.

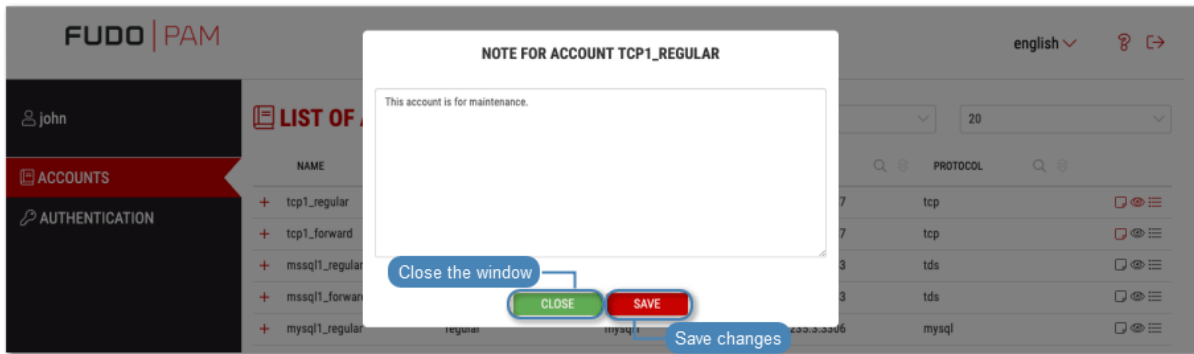
1. Select *ACCOUNTS*.
2. Find account which note's you want to access.
3. Click  icon to open the note.



The screenshot shows the FUDO | PAM interface. The user is logged in as 'john'. The main content area is titled 'LIST OF ACCOUNTS' and displays a table of accounts. The table has columns for NAME, TYPE, SERVER NAME, HOST, and PROTOCOL. There are four rows of accounts. A blue callout box points to the 'Show account's note' button in the action column of the first row.

NAME	TYPE	SERVER NAME	HOST	PROTOCOL	
+ tcp1_regular	regular	tcp1	10.0.235.3:2137	tcp	  
+ tcp1_forward	forward	tcp1	10.0.235.3:2137		  
+ mssql1_regular	regular	mssql1	10.0.234.6:1433	tds	  
+ mssql1_forward	forward	mssql1	10.0.234.6:1433	tds	  

4. Add or edit the note and click *SAVE* to store changes or *CLOSE* to close the window without saving your changes.



Note: Notes' editing requires *write* access right assigned by the system administrator.




7.1 Connecting over RDP and SSH in browser

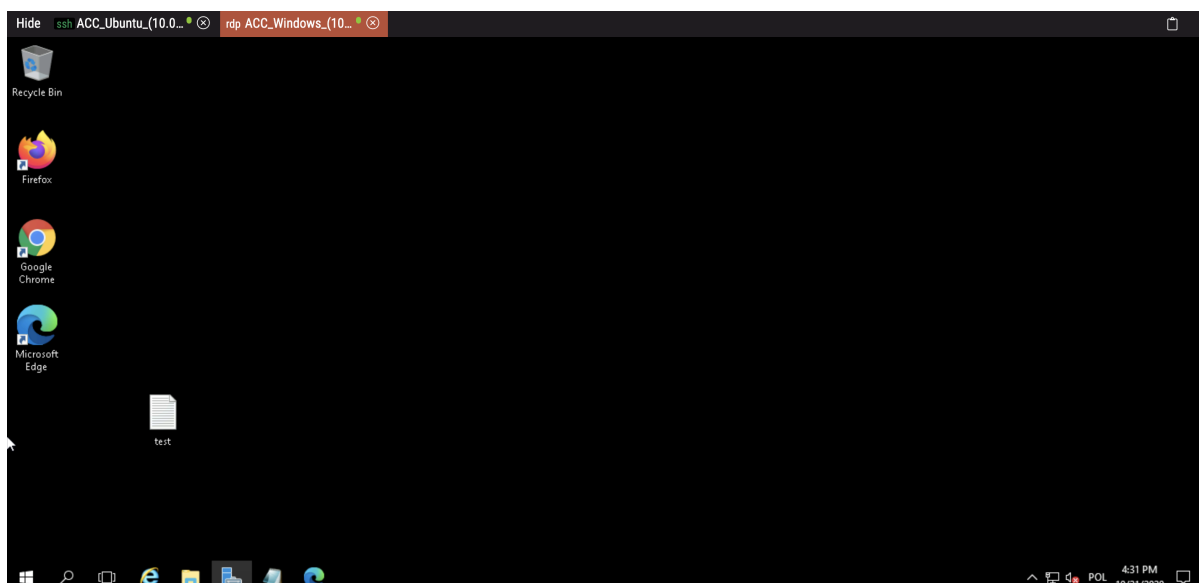
Connecting over RDP and SSH in browser is available via the Webclient feature.

1. Find desired account you want to use to connect to the server.
2. Click the *Web* button next to the account.

Note: Each session is opened in a separate browser tab.

For the sessions, based on RDP and SSH protocols, panel tab has embedded the following features:

- *Hide / Show* button that minimizes / maximizes the connection window.
- a tab displays a protocol type, the listener name and the connection state:
 -  connection is establishing.
 -  session is connected.
 -  session is disconnected.
- *clipboard* feature allows copying a text fragment for the later paste.



Note: Hovering over a particular tab shows the preview of the session.

Additionally, for the sessions based on SSH protocol, there are features that allow customizing the view:

- *font size*, and
- *a terminal color scheme* (default scheme is black-white, also available gray-black, green-black and white-black).

```

Hide  ssh ACC_Ubuntu_(10.0.0...)  rdp ACC_Windows_(10.0.0...)  - 12 +  [refresh] [close]
System information as of Wed 21 Oct 2020 01:43:50 PM UTC

System load:          0.62
Usage of /:           53.1% of 19.56GB
Memory usage:        61%
Swap usage:          23%
Processes:           232
Users logged in:     1
IPv4 address for ens18: 10.0.235.1
IPv4 address for ens18: 10.0.235.2
IPv4 address for ens18: 10.0.235.3
IPv4 address for ens18: 10.0.235.4
IPv4 address for ens18: 10.0.235.5
IPv4 address for ens18: 10.0.235.6
IPv4 address for ens18: 10.0.235.7
IPv4 address for ens18: 10.0.235.8
IPv4 address for ens18: 10.0.235.9
IPv4 address for ens18: 10.0.235.10
IPv6 address for ens18: 2001:1a68:2d:1:cce5:ff:fef5:9946

* Introducing autonomous high availability clustering for MicroK8s
  production environments! Super simple clustering, hardened Kubernetes,
  with automatic data store operations. A zero-ops HA K8s for anywhere.

  https://microk8s.io/high-availability

10 updates can be installed immediately.
0 of these updates are security updates.
To see these additional updates run: apt list --upgradable

*** System restart required ***
Last login: Wed Oct 21 13:43:13 2020 from 10.0.236.190
admin1@ubuntu-qa:~$

```

Warning: While log out, there is a dialog window where you can choose:


Log out to log out with connections being opened, or

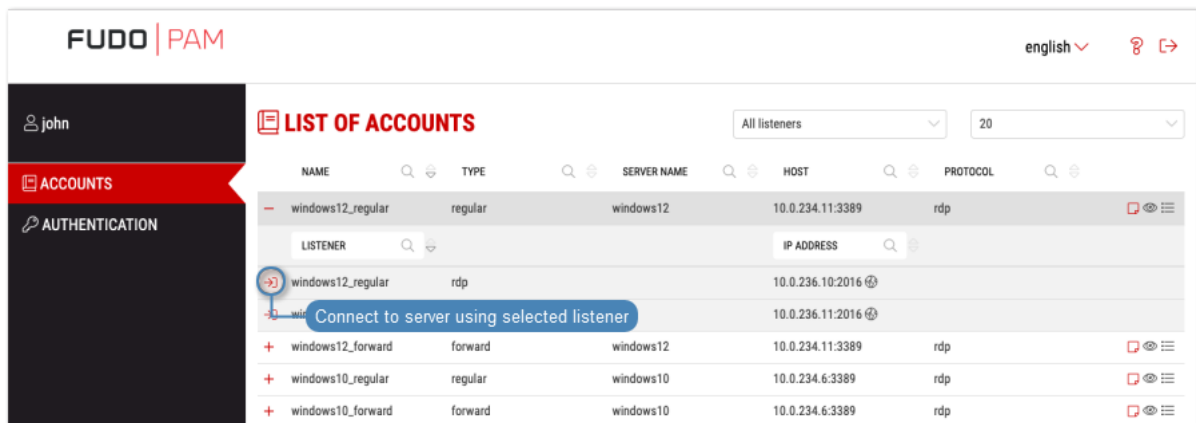
Log out and close connections to log out and terminate ongoing connections

Related topics:



- *Connecting over RDP on Mac OS X*
- *Connecting over RDP on Microsoft Windows 7 and 10*

7.2 Connecting over RDP on Microsoft Windows 7 and 10

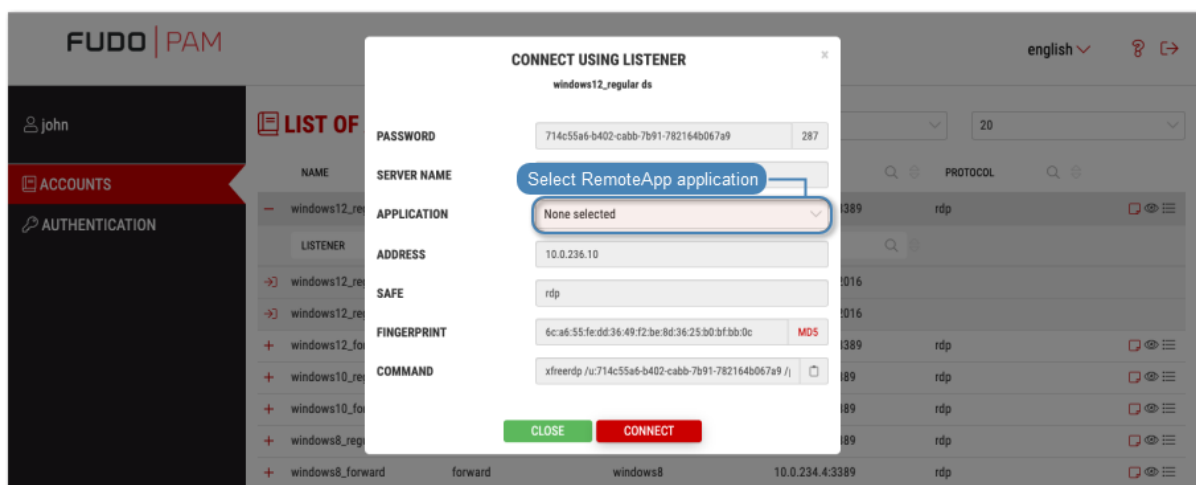
1. Log in to the User Portal and select *ACCOUNTS*.
2. Find desired account and server.
3. Select desired listener and click  icon.



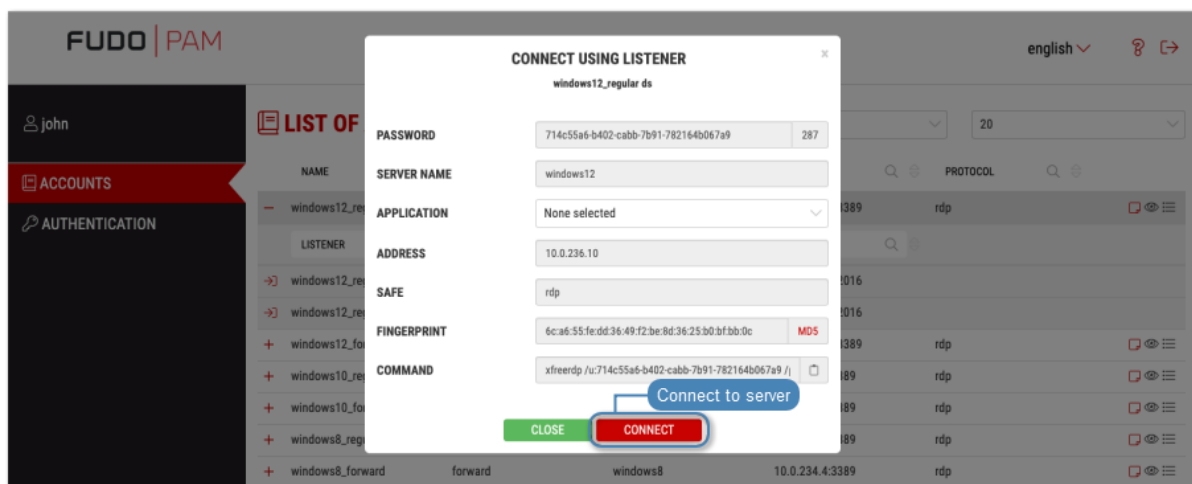
Note:

- The list contains both internal and external listening addresses.
- In case there is the  icon displayed next to the safe instead of the  icon, you must *fill in access request form*.

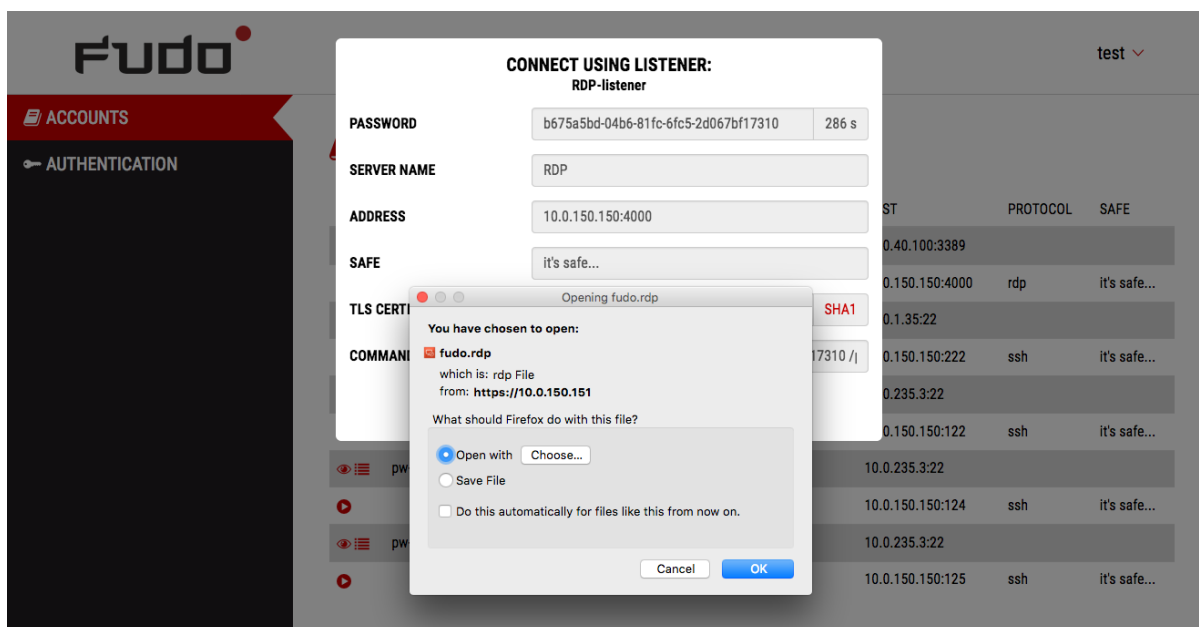
4. Optionally, select a *RemoteApp*.



5. Click *CONNECT*.

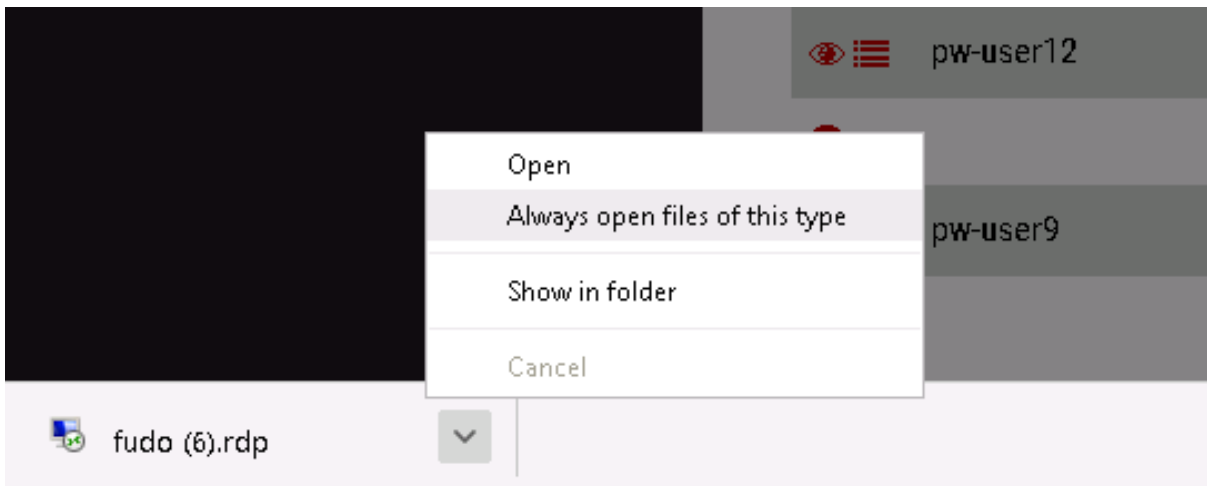


6. Save the connection definition file or launch a dedicated RDP protocol client.

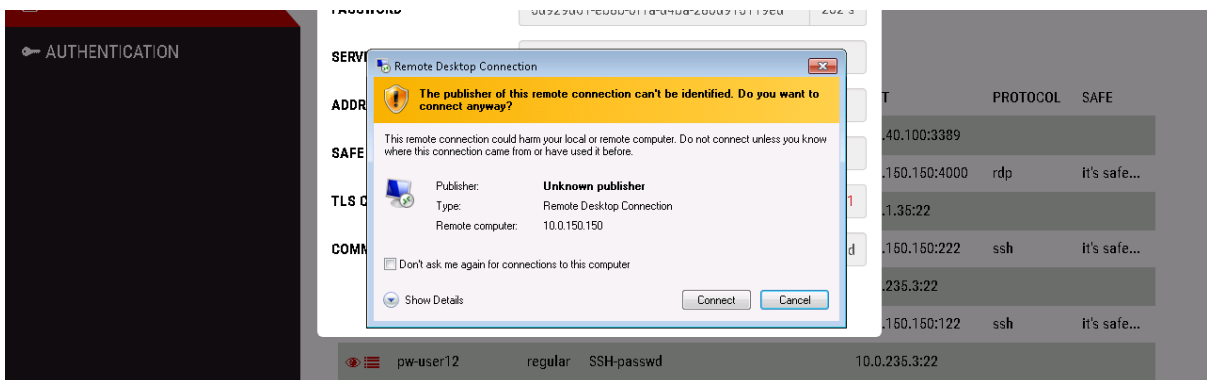


Note:

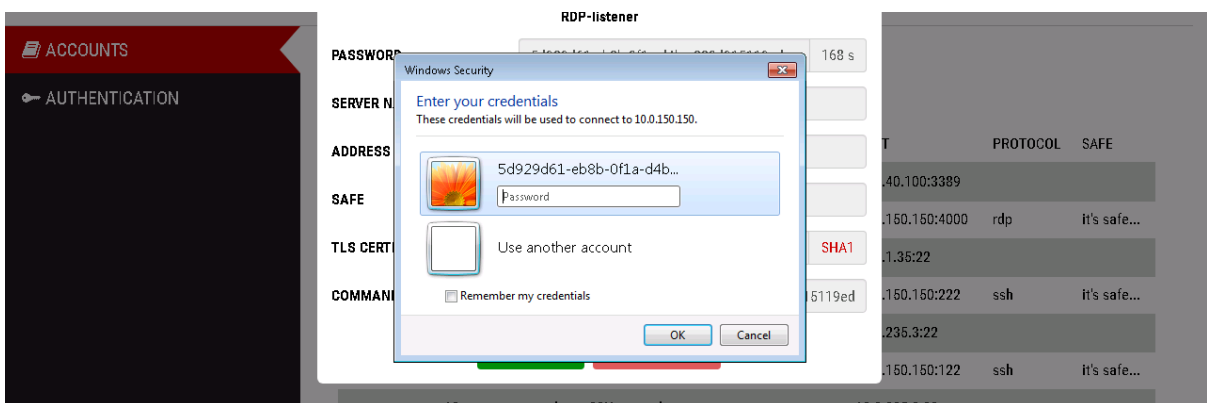
- *Google Chrome* will automatically save the file.
- Select the *Always open this file type* option to automatically start the client app.



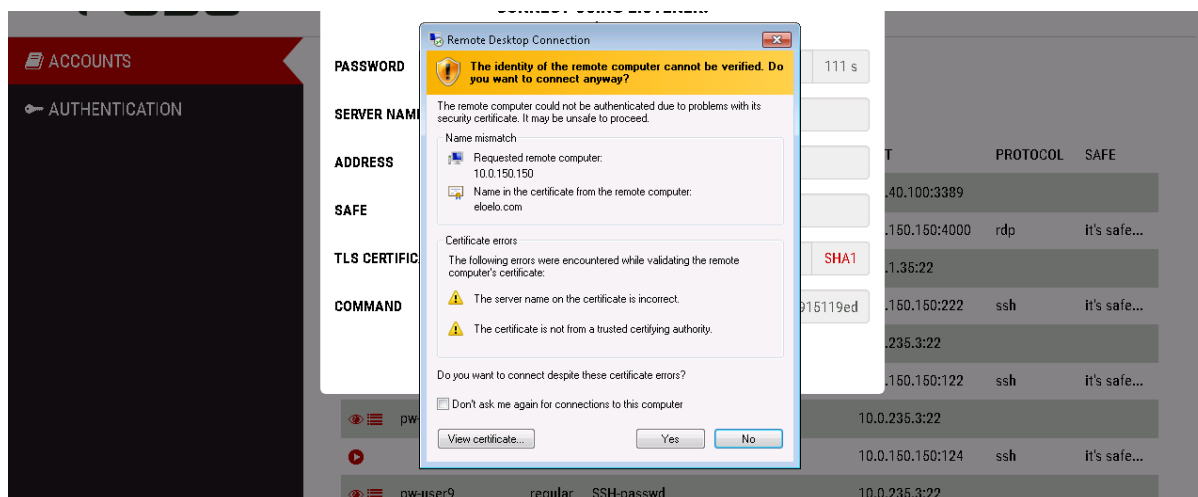
7. Click *Connect* in the RDP client app window.



8. Click *OK* in the credentials prompt window without providing the password.



9. Click *Yes* to connect to the server despite the certificate alert.

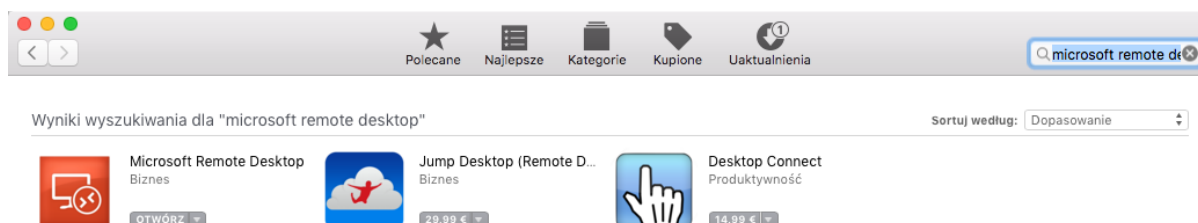


Related topics:


- [Connecting over RDP on Mac OS X](#)
- [Connecting over RDP on Ubuntu Linux](#)

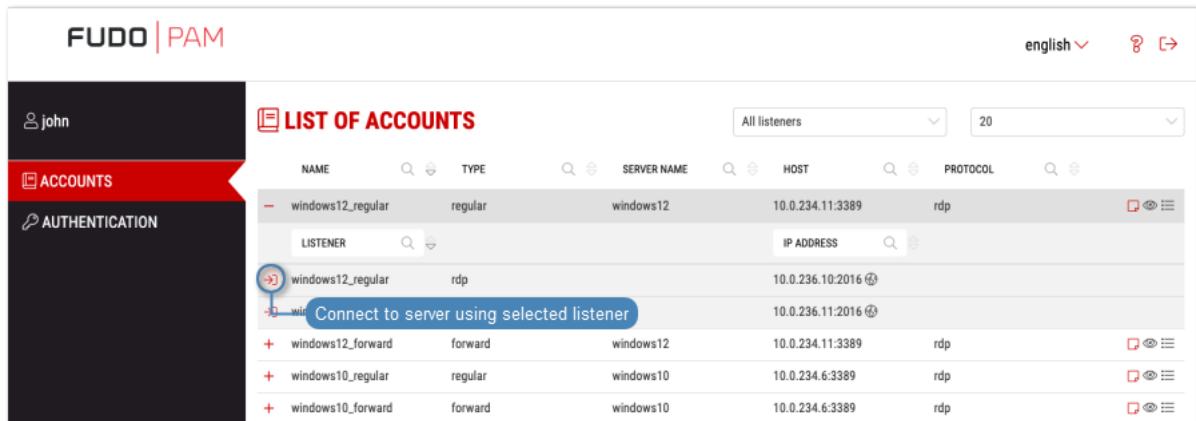
7.3 Connecting over RDP on Mac OS X

Note: To establish RDP connections on Mac OS X, download and install *Microsoft Remote Desktop*.





1. Log in to the User Portal and select *ACCOUNTS*.

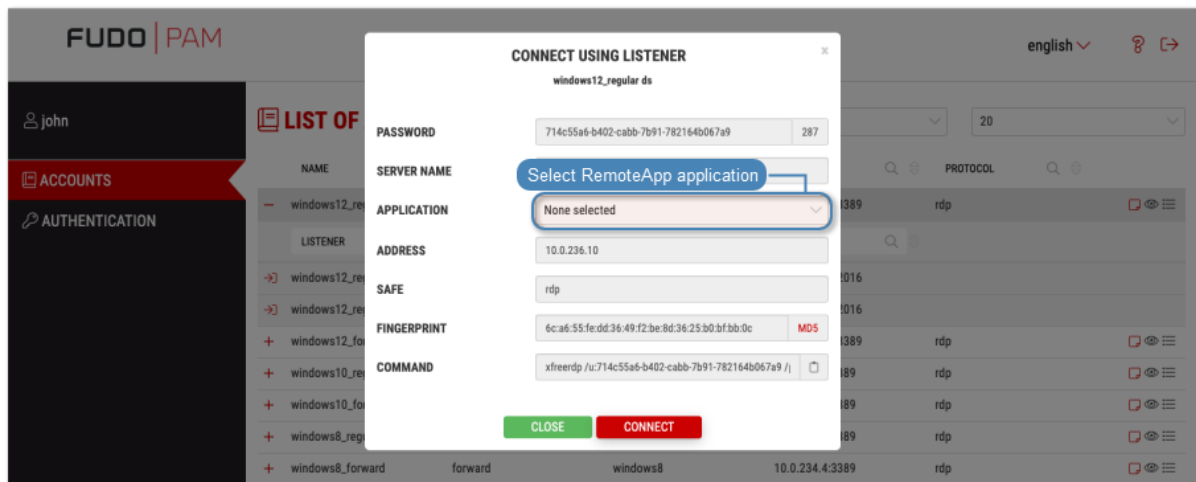
2. Find desired account and server.
3. Select desired listener and click  icon.



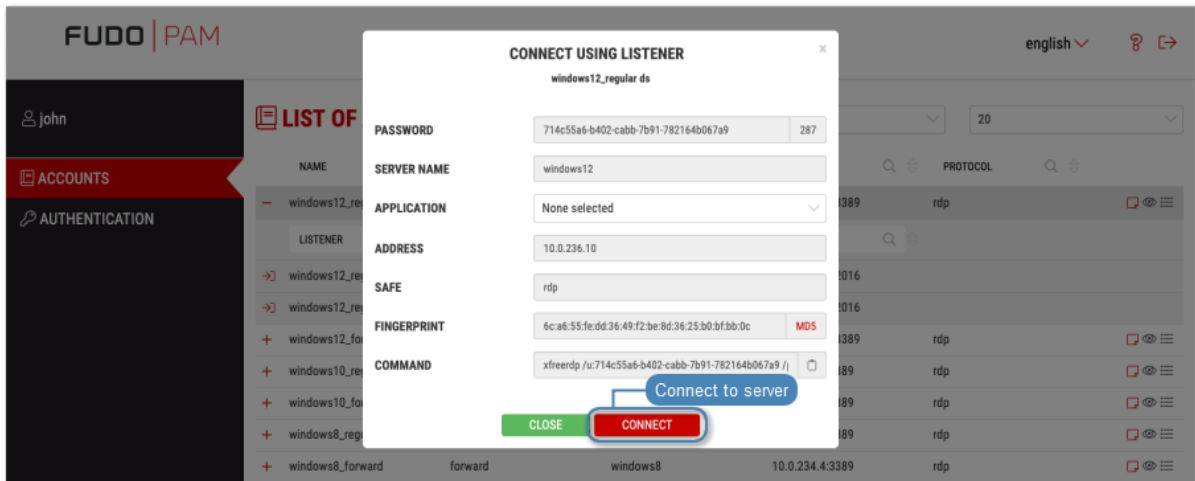
Note:

- The list contains both internal and external listening addresses.
- In case there is the  icon displayed next to the safe instead of the  icon, you must *fill in access request form*.

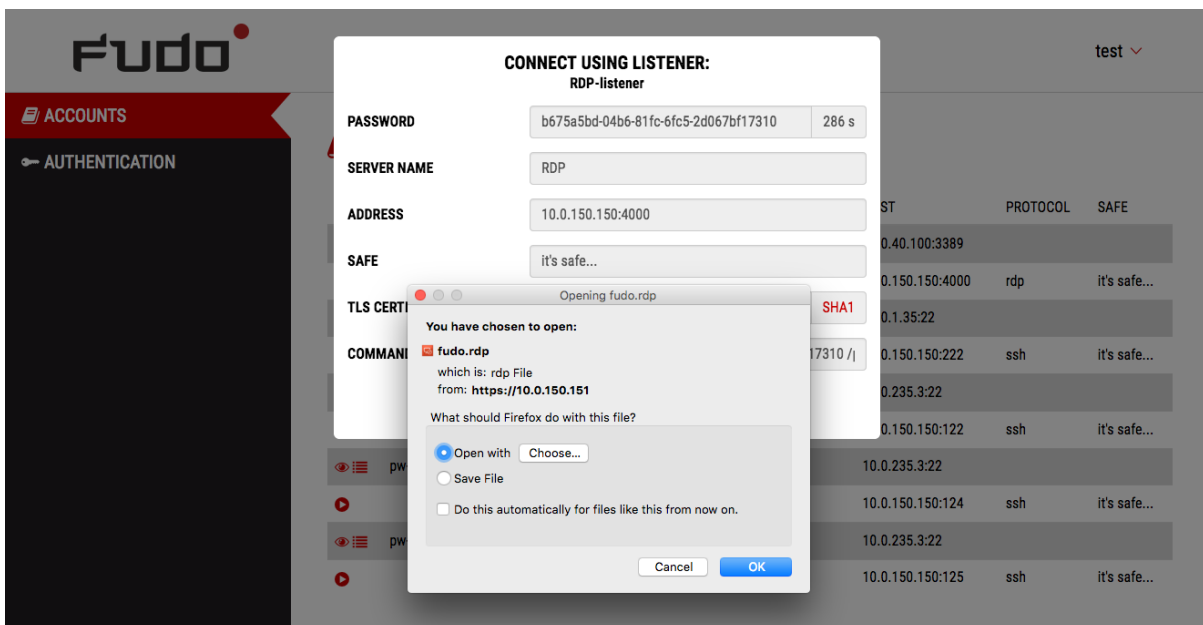
4. Optionally, select a *RemoteApp*.



5. Click *CONNECT*.

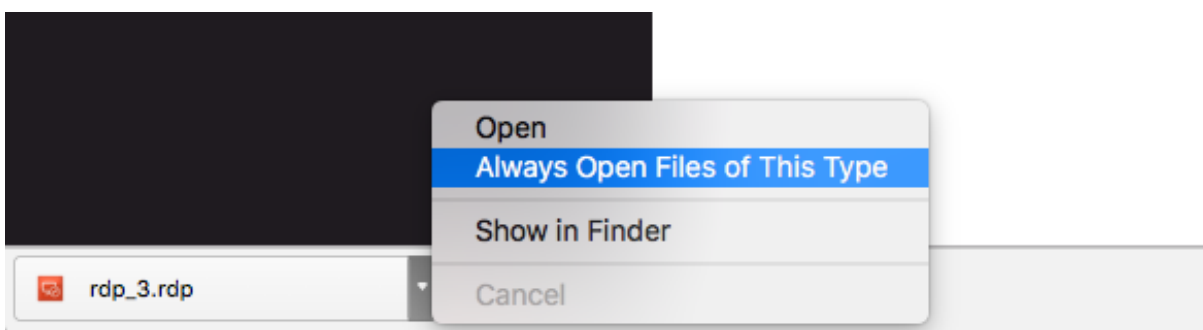


6. Save the connection definition file or launch a dedicated RDP protocol client.

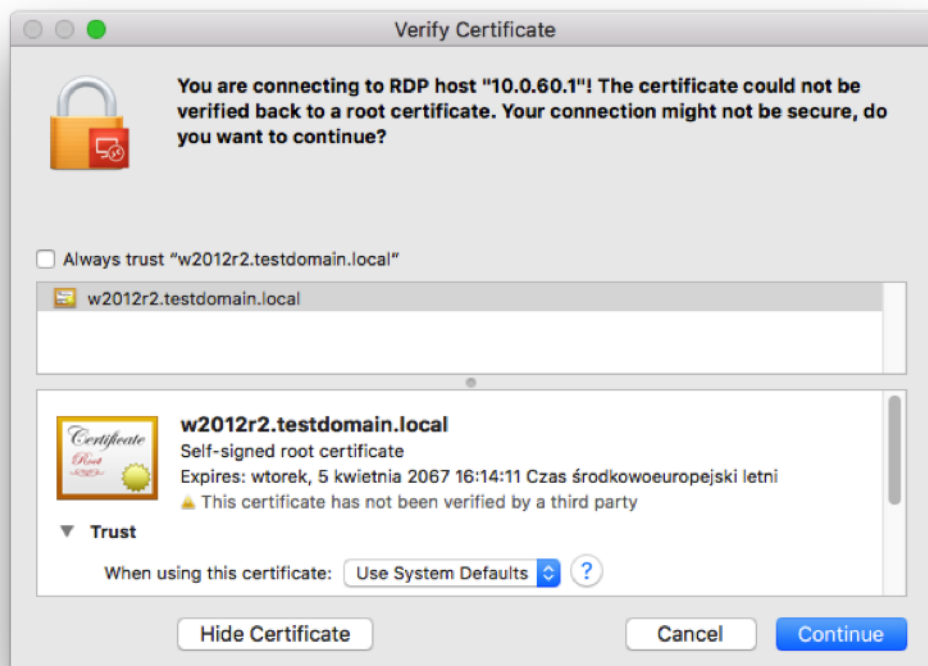


Note:

- *Google Chrome* will automatically save the file.
- Select the *Always open this file type* option to automatically start the client app.



7. Click *Continue* to accept the certificate and initiate connection with selected server.




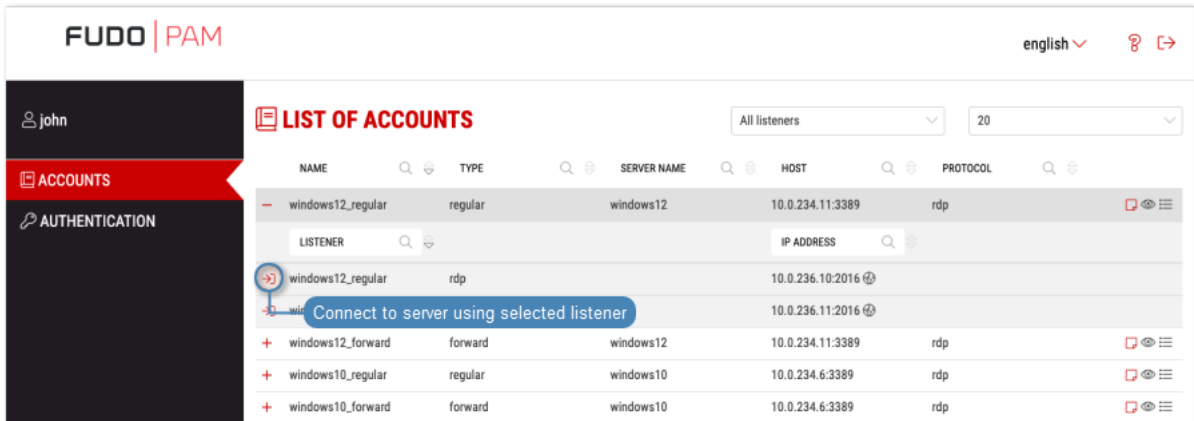
Related topics:

- *Connecting over RDP on Microsoft Windows 7 and 10*
- *Connecting over RDP on Ubuntu Linux*



7.4 Connecting over RDP on Ubuntu Linux

Note: Establishing RDP connections on Ubuntu 16.04 LTS requires installing `xfreerdp`. Execute `sudo apt-get install freerdp-x11`, to install it before proceeding with connecting over RDP protocol.

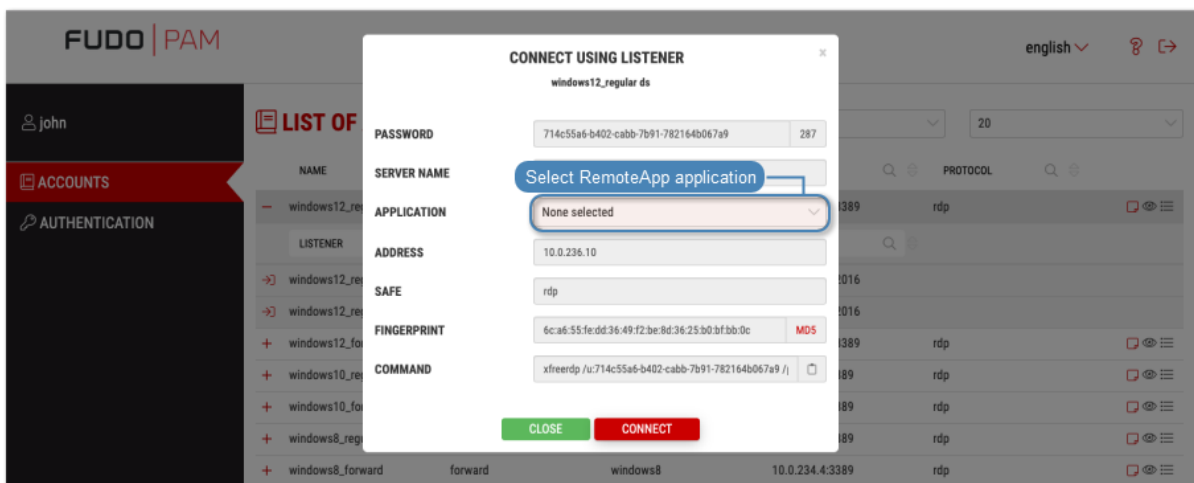
1. Log in to the User Portal and select *ACCOUNTS*.
2. Find desired account and server.
3. Select desired listener and click  icon.



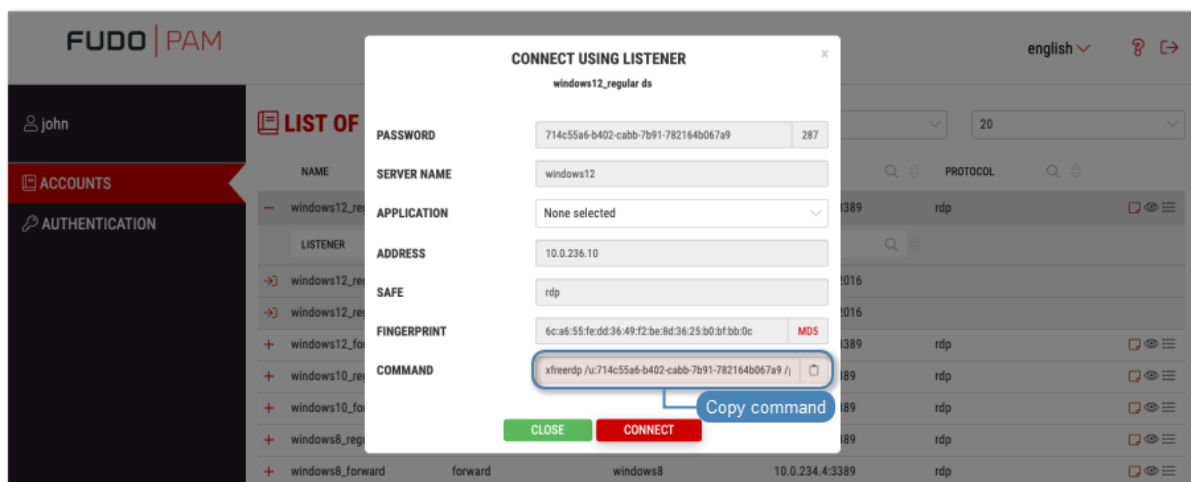
Note:

- The list contains both internal and external listening addresses.
- In case there is the  icon displayed next to the safe instead of the  icon, you must *fill in access request form*.

4. Optionally, select a *RemoteApp*.



5. Copy generated string.



6. Execute command in terminal window.

Related topics:

- [Connecting over RDP on Mac OS X](#)
- [Connecting over RDP on Microsoft Windows 7 and 10](#)

7.5 Connecting over SSH on Microsoft Windows 7 and 10

Note: To automatically initiate SSH connections you must install *PuTTY* and configure association between client the app and the SSH protocol. To do the latter it is advised to install *WinSCP*, which will perform necessary configuration changes. Both programs must be in their 32-bit versions.

1. Download and install *WinSCP*.

<https://winscp.net/download/WinSCP-5.9.5-Setup.exe>

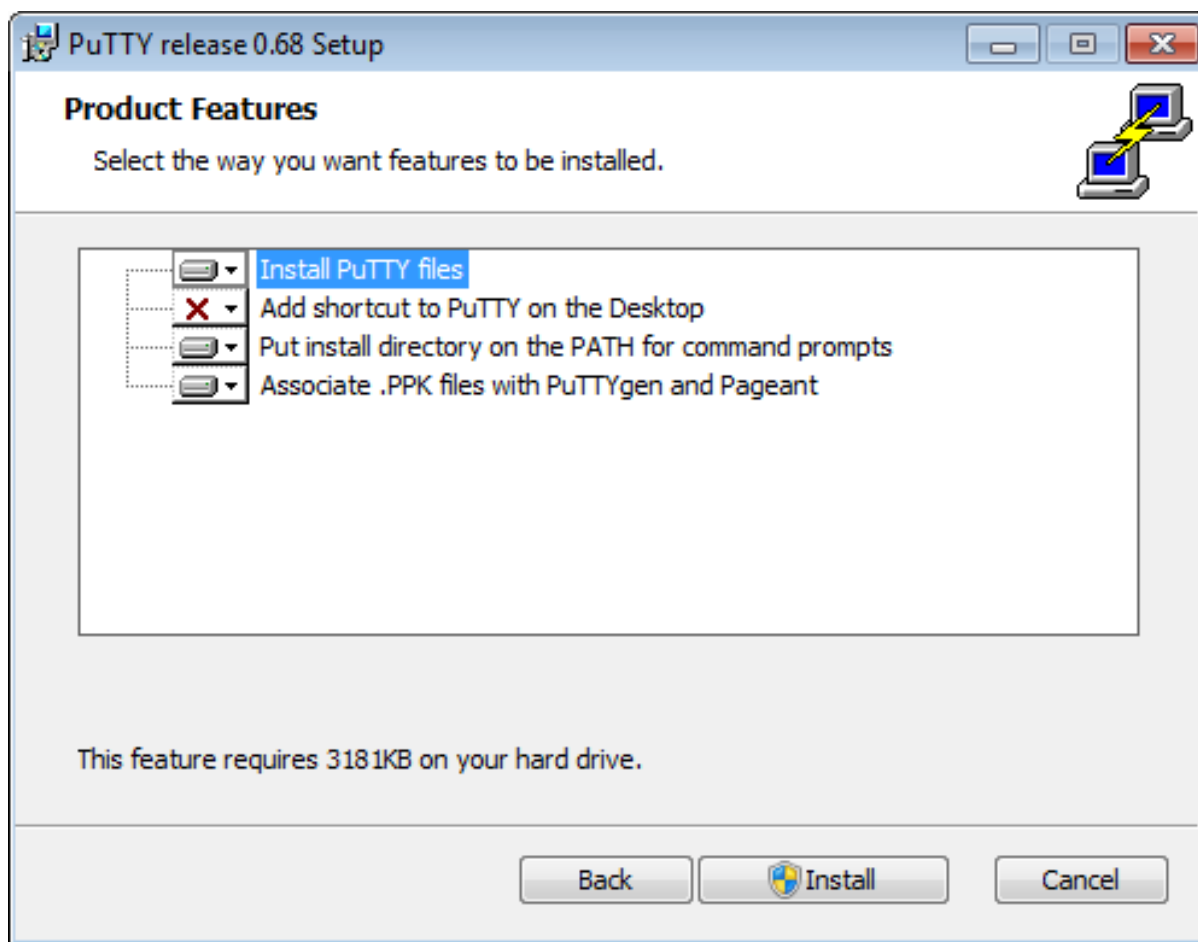
Note: Verify the checksum value to make sure that the integrity of the binary file has not been compromised.


2. Download and install *PuTTY*.

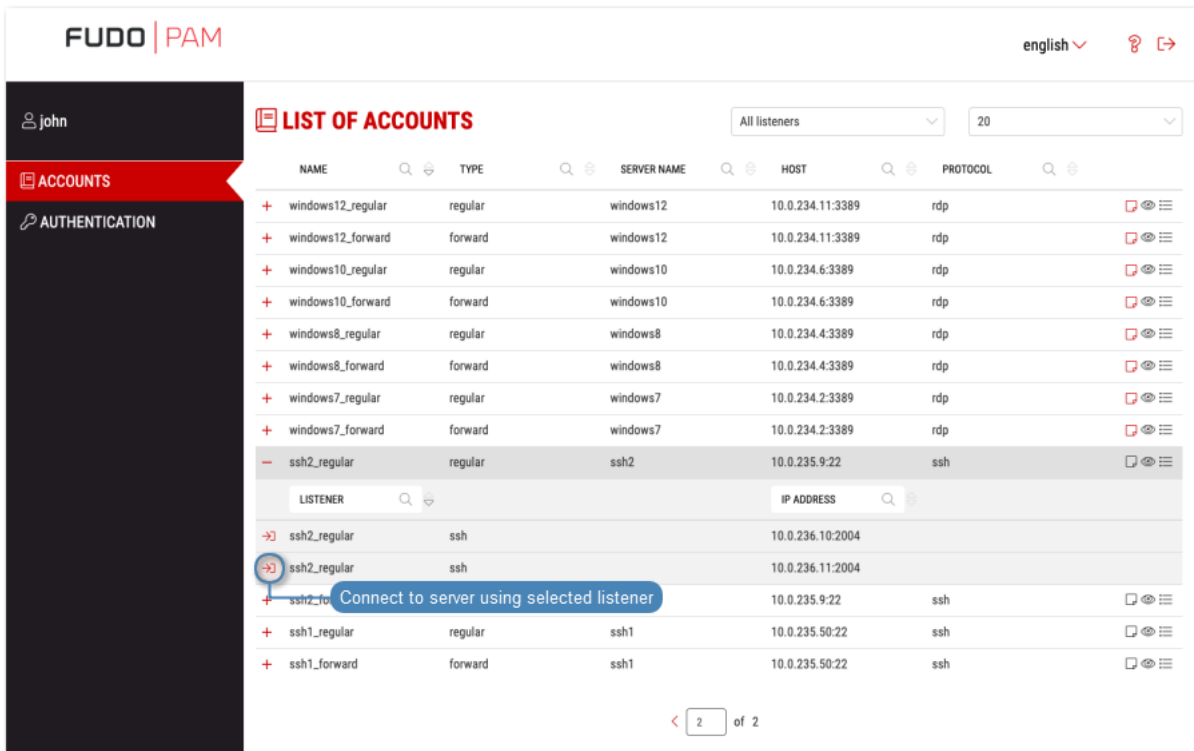
<https://winscp.net/download/putty-0.68-installer.msi>

Note:



- Install *PuTTY* in the default installation location: C:\Program Files (x86)\PuTTY\.
- During installation select default features set.



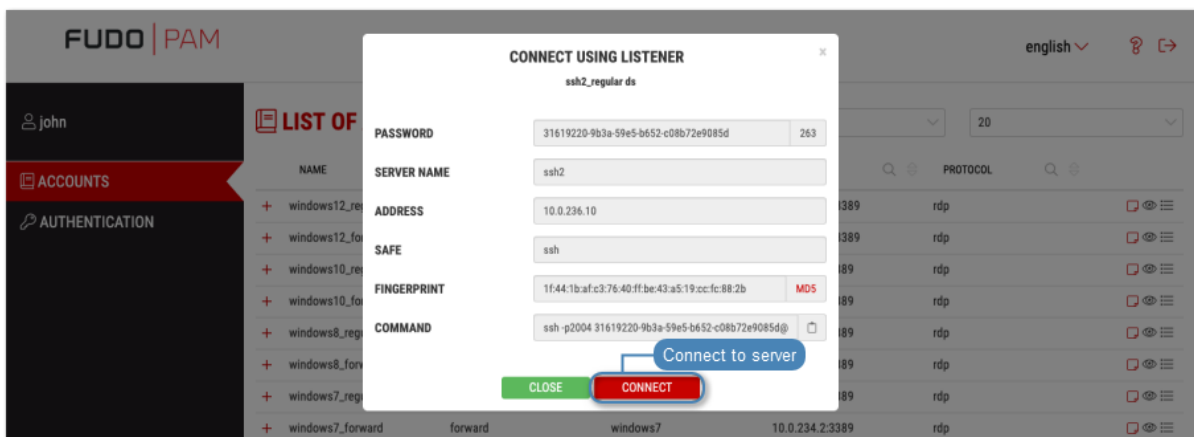
3. Log in to the User Portal.
4. Select *ACCOUNTS*.
5. Find desired account and server.
6. Click  next to the listener you want to use to connect to the server.



Note:

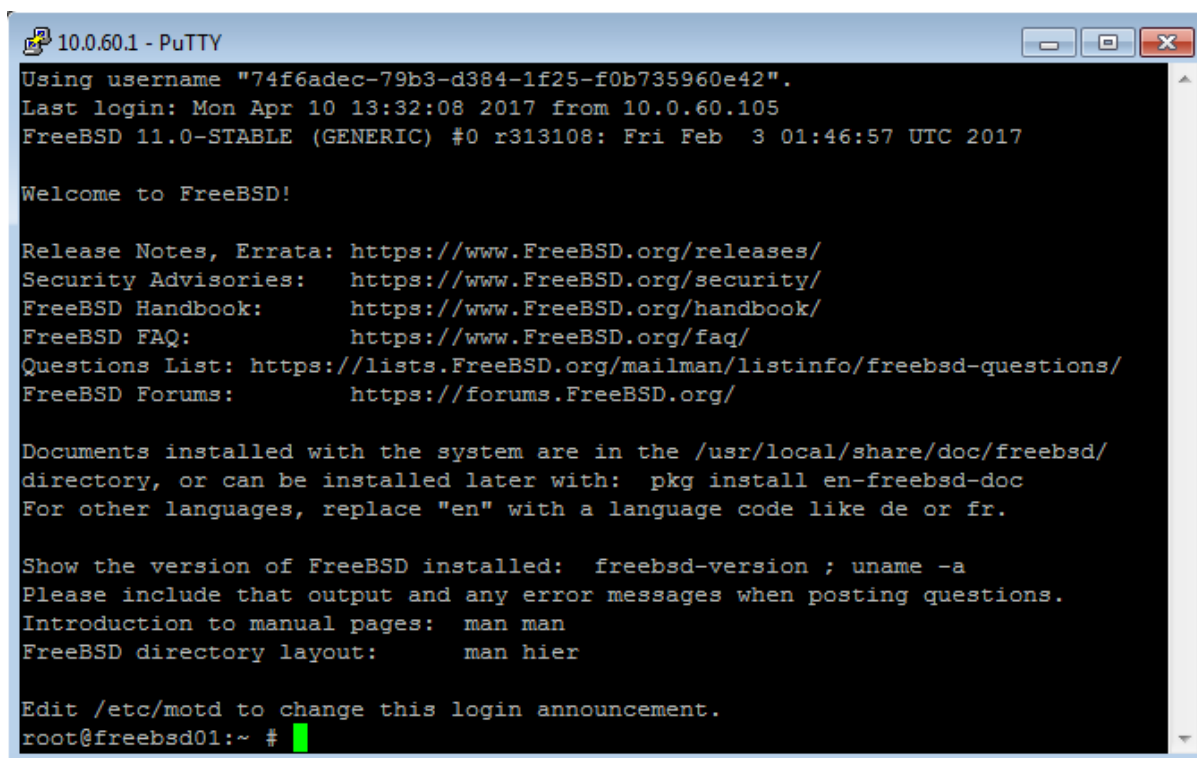
- The list contains both internal and external listening addresses.
- In case there is the  icon displayed next to the safe instead of the  icon, you must *fill in access request form*.

7. Click *CONNECT* to launch client application appropriate for selected listener with connection parameters forwarded.



8. In the *Launch application* select *WinSCP:SFTP,FTP,WebDAV and SCP* and click *Open*.

9. The connection has been established.

A screenshot of a PuTTY terminal window titled "10.0.60.1 - PuTTY". The terminal displays the following text:

```
Using username "74f6adec-79b3-d384-1f25-f0b735960e42".
Last login: Mon Apr 10 13:32:08 2017 from 10.0.60.105
FreeBSD 11.0-STABLE (GENERIC) #0 r313108: Fri Feb  3 01:46:57 UTC 2017

Welcome to FreeBSD!

Release Notes, Errata: https://www.FreeBSD.org/releases/
Security Advisories:  https://www.FreeBSD.org/security/
FreeBSD Handbook:    https://www.FreeBSD.org/handbook/
FreeBSD FAQ:         https://www.FreeBSD.org/faq/
Questions List:      https://lists.FreeBSD.org/mailman/listinfo/freebsd-questions/
FreeBSD Forums:     https://forums.FreeBSD.org/

Documents installed with the system are in the /usr/local/share/doc/freebsd/
directory, or can be installed later with:  pkg install en-freebsd-doc
For other languages, replace "en" with a language code like de or fr.


Show the version of FreeBSD installed:  freebsd-version ; uname -a
Please include that output and any error messages when posting questions.
Introduction to manual pages:  man man
FreeBSD directory layout:     man hier

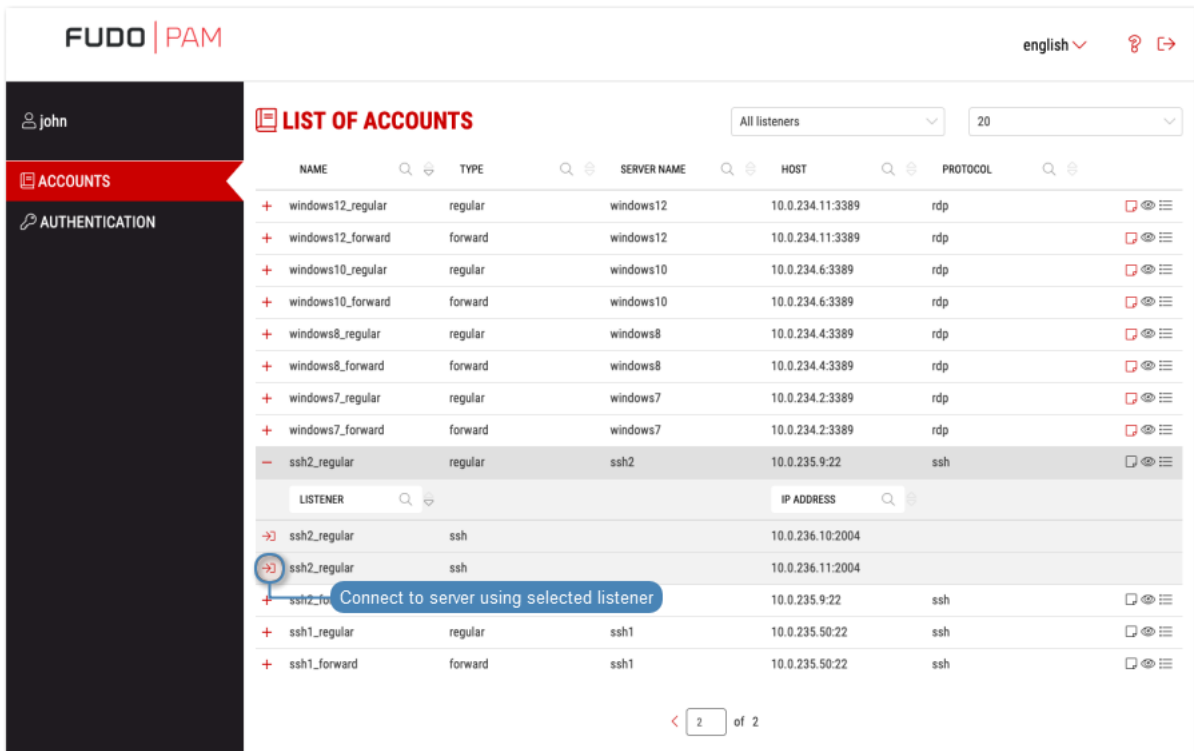
Edit /etc/motd to change this login announcement.
root@freebsd01:~ #
```

Related topics:



- *Connecting over RDP on Mac OS X*
- *Connecting over RDP on Microsoft Windows 7 and 10*
- *Connecting over RDP on Ubuntu Linux*

7.6 Connecting over SSH on Mac OS

1. Log in to the User Portal and select *ACCOUNTS*.
2. Find desired account and server.
3. Click  next to the listener you want to use to connect to the server.



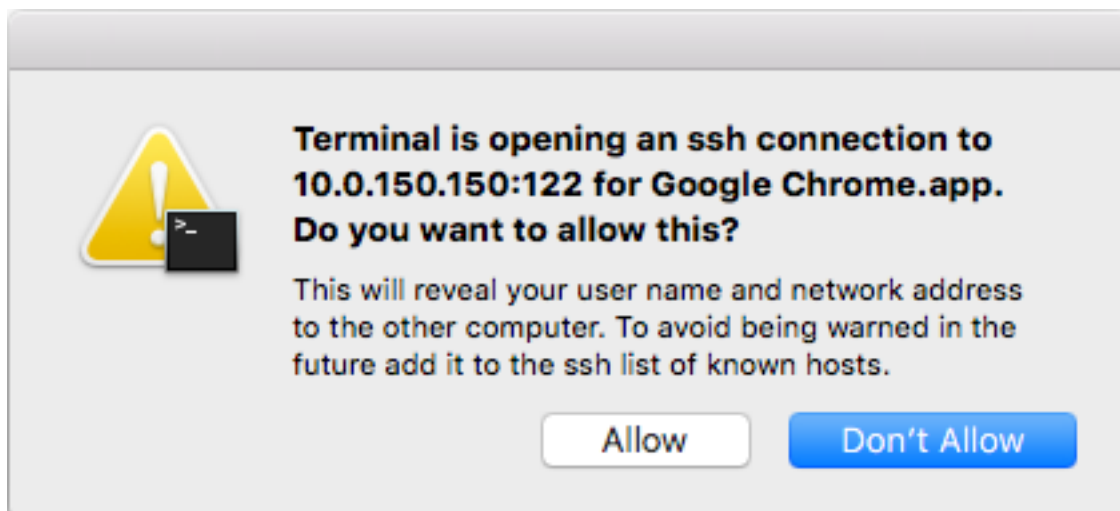
Note:

- The list contains both internal and external listening addresses.
- In case there is the  icon displayed next to the safe instead of the  icon, you must *fill in access request form*.

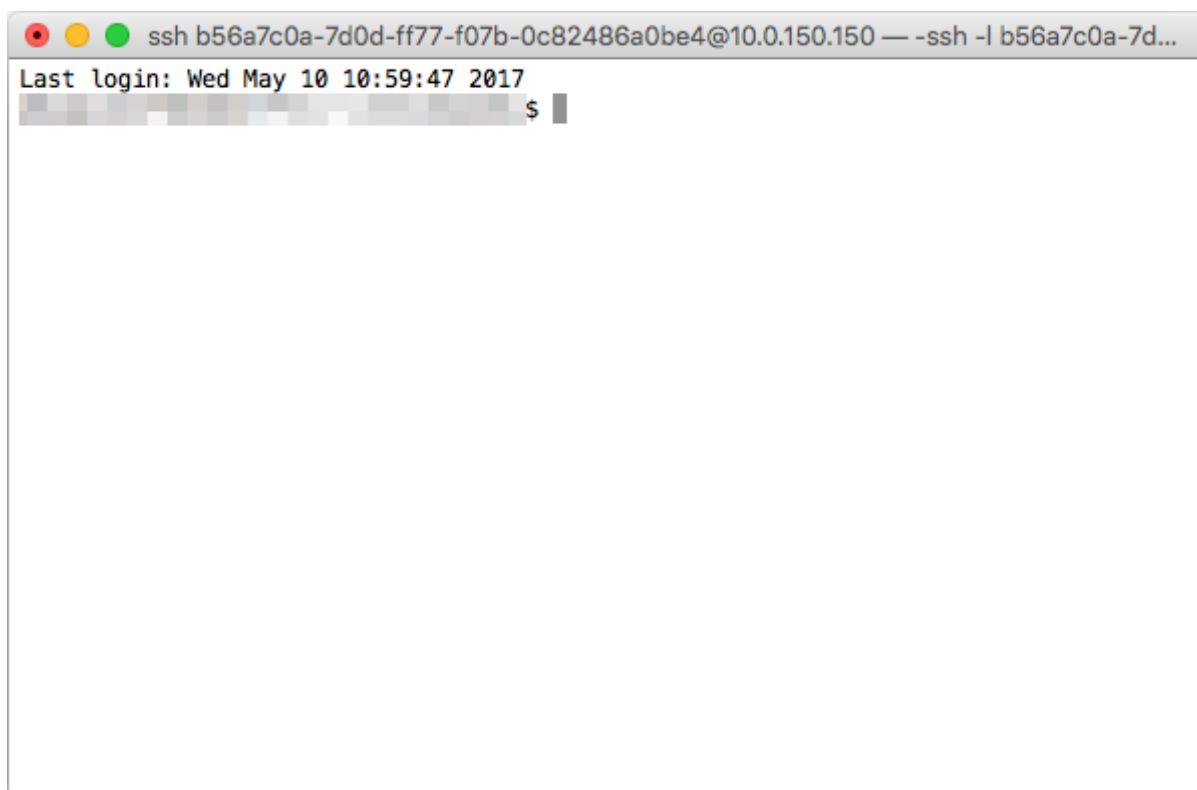
4. Click *CONNECT*.



5. Click *Allow* to open the Terminal.



6. The connection has been established.



Related topics:


- *Connecting over RDP on Mac OS X*
- *Connecting over RDP on Microsoft Windows 7 and 10*
- *Connecting over RDP on Ubuntu Linux*

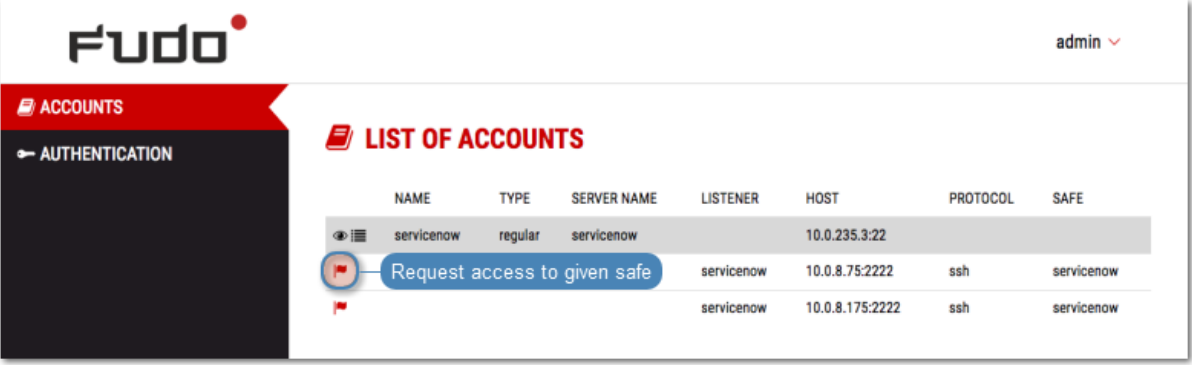
Requesting access to safe

Note:

- Using this feature requires ServiceNow ticketing system.
- Usernames on Wheel Fudo PAM and *ServiceNow* must be the same to ensure correct requests processing.

To request access to safe, proceed as follows.

1. Log in to *User Portal*.
2. Find desired safe and click  .

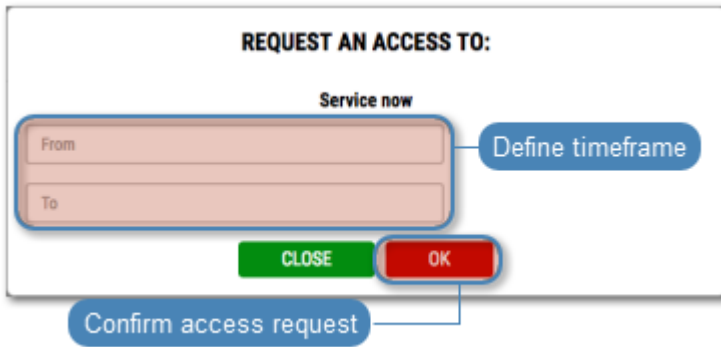


The screenshot shows the Fudo user portal interface. The top left has the Fudo logo and a user dropdown menu showing 'admin'. The left sidebar has 'ACCOUNTS' and 'AUTHENTICATION' options. The main content area is titled 'LIST OF ACCOUNTS' and contains a table with the following data:

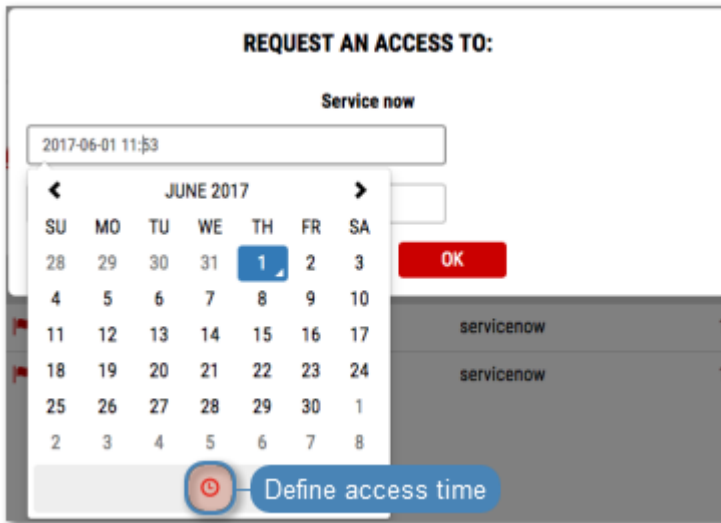
NAME	TYPE	SERVER NAME	LISTENER	HOST	PROTOCOL	SAFE
servicenow	regular	servicenow		10.0.235.3:22		
			servicenow	10.0.8.75:2222	ssh	servicenow
			servicenow	10.0.8.175:2222	ssh	servicenow

A blue callout box with a flag icon points to the 'Request access to given safe' button in the second row of the table.

3. Define time period and click *OK*.



Note: Click the  icon to access time settings.



Authentication provides an overview of authentication methods assigned to the logged in user.

Changing static password

1. Select *AUTHENTICATION*.
2. Provide old and new passwords and click *SAVE*.

The screenshot shows the FUDO | PAM user interface. The top left corner displays the user's name 'john'. The top right corner shows the language 'english' with a dropdown arrow, a help icon, and a refresh icon. The main content area is titled 'STATIC PASSWORDS' and contains a form with three input fields: 'Old password', 'New password', and 'Repeat password'. Below the 'Repeat password' field are two buttons: 'RESET' and 'SAVE'. A red arrow points to the 'AUTHENTICATION' menu item in the left sidebar. A blue callout box labeled 'Save new password' points to the 'SAVE' button.

CHAPTER 10

Troubleshooting

Problem	Symptoms and solution description
Cannot log in to the User Portal	Symptoms: <ul style="list-style-type: none">• The user cannot log in. Solution: <ul style="list-style-type: none">• Make sure you are entering correct login credentials.• Contact system administrator to verify whether you have User Portal access privileges.• Contact system administrator to verify the User Portal time policy settings.
Accounts list is missing objects.	Solution: <ul style="list-style-type: none">• Contact your system administrator to make sure you have access to required safes. Symptoms: <ul style="list-style-type: none">• Cannot connect to selected server. Reason: connection takes place outside the timeframe defined by the access time policy. Solution: contact system administrator to verify your time policy settings.