



Step-by-Step Guide

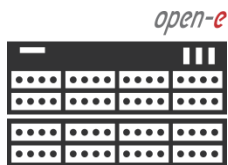
Remote Snapshot Control with CLI/API of Data Storage Software V7

The aim of this document is to demonstrate how set up remote snapshot control with CLI/API on DSS V7. It shows in step-by-step, how to set up DSS V7 and install key generation utility and command line interface wit use plink program.

To set up remote snapshot control with CLI/API, perform the following steps:

1. Download PuTTYgen and Plink for Windows
2. Create an iSCSI Logical Volume with Snapshot
3. Configure CLI/API on DSS V7
4. Convert key with PuTTY Key Generator
5. Issue the "snapshot_task" command with "start", "status" and "stop" options.

1. Download PuTTYgen and Plink for Windows



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Download PuTTYgen and Plink from
<http://putty.nl/download.html>
and install on your PC

Putty Download Page - Mozilla Firefox

putty.nl/download.html

Putty Download Page

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Here are the PuTTY files themselves:

- PuTTY (the Telnet and SSH client itself)
- PSCP (an SCP client, i.e. command-line secure file copy)
- PSFTP (an SFTP client, i.e. general file transfer sessions much like FTP)
- PuTTYtel (a Telnet-only client)
- Plink (a command-line interface to the PuTTY back ends)
- Pageant (an SSH authentication agent for PuTTY, PSCP, PSFTP, and Plink)
- PuTTYgen (an RSA and DSA key generation utility).

LEGAL WARNING: Use of PuTTY, PSCP, PSFTP and Plink is illegal in countries where encryption is outlawed. I believe it is legal to use PuTTY, PSCP, PSFTP and Plink in England and Wales and in many other countries, but I am not a lawyer and so if in doubt you should seek legal advice before downloading it. You may find [this site](#) useful (it's a survey of cryptography laws in many countries) but I can't vouch for its correctness.

Use of the Telnet-only binary (PuTTYtel) is unrestricted by any cryptography laws.

There are cryptographic signatures available for all the files we offer below. We also supply cryptographically signed lists of checksums. To download our public keys and find out more about our signature policy, visit the [Keys page](#). If you need a Windows program to compute MD5 checksums, you could try the one at [this site](#). (This MD5 program is also cryptographically signed by its author.)

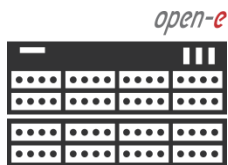
Binaries

The latest release version (beta 0.62). This will generally be a version I think is reasonably likely to work well. If you have a problem with the release version, it might be worth trying out the latest development snapshot (below) to see if I've already fixed the bug, before reporting it to me.

For Windows on Intel x86

PuTTY:	putty.exe	(or by FTP)	(RSA sig)	(DSA sig)
PuTTYtel:	puttytel.exe	(or by FTP)	(RSA sig)	(DSA sig)
PSCP:	pscp.exe	(or by FTP)	(RSA sig)	(DSA sig)
PSFTP:	psftp.exe	(or by FTP)	(RSA sig)	(DSA sig)
Plink:	plink.exe	(or by FTP)	(RSA sig)	(DSA sig)
Pageant:	pageant.exe	(or by FTP)	(RSA sig)	(DSA sig)
PuTTYgen:	puttygen.exe	(or by FTP)	(RSA sig)	(DSA sig)

2. Create iSCSI Logical Volume with Snapshot



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After logging on the DSS V7, please go to "**CONFIGURATION**" tab, select "**Volume manager**" and "**Volume groups**". Next select the appropriate volume group (**vg00**) from the list on the left.

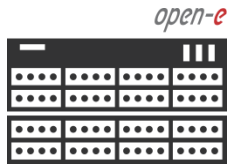
Next, select the required size of iSCSI volume. In this eg. adding 200 GB for the iSCSI volume. After assigning an appropriate amount of space for the iSCSI volume, click the **apply** button

The screenshot shows the open-e web interface with the following elements:

- Navigation:** SETUP | CONFIGURATION | MAINTENANCE | STATUS | HELP
- Breadcrumbs:** You are here: Configuration > Volume manager > Volume groups > vg00
- Left Panel (Vol. groups):** A list containing 'vg00'.
- Right Panel (Volume manager):**
 - System volumes table:**

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	290.06
 - Action:** new iSCSI volume
 - Options:** Just create volume
 - Use volume replication
 - File I/O
 - Initialize
 - Rate:** medium
 - Block I/O
 - Slider:** 0 to 290.06 GB
 - Input field:** add: 200 GB
 - Buttons:** < > apply
- Footer:** Event Viewer | Data Storage Software V7 - All rights reserved

2. ... Continue



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After reloading the page in the field **Action** select "new snapshot" of the required size (in this example 20 Gb), and click **apply** button.

The screenshot shows the open-e web interface for configuring storage. The breadcrumb trail is: Configuration > Volume manager > Volume groups > vg00. The 'Vol. groups' section shows a list with 'vg00'. The 'Volume manager' section contains a table:

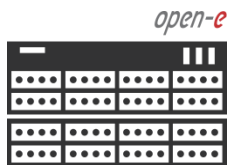
Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	iscsi				N/A	200.00

Below the table, the 'System volumes' section shows:

System volumes	Size (GB)
SWAP	4.00
Reserved for snapshots	0.00
Reserved for system	4.00
Reserved for replication	0.00
Free	90.06

The 'Action' dropdown is set to 'new snapshot'. The 'Assign to volume' dropdown is set to 'Just create snapshot volume'. A slider and input field show a size of 20 GB. The 'apply' button is highlighted with a red arrow.

2. ... Continue



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Use **Snapshot definition** to assign an appropriate logical volume (in this example lv0000), and click **apply** button.

HINT:

For additional details about creating targets for the logical volume and the snapshot volume, please refer to the documents in the How-to Resources section on the web.

The screenshot shows the open-e web interface for configuring storage. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: Configuration > Volume manager > Volume groups > vg00'.

The main content area is divided into several sections:

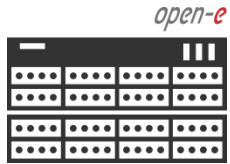
- Vol. groups:** Shows a list of volume groups, with 'vg00' selected.
- Vol. replication:** Shows replication settings, including checkboxes for 'Use volume replication' and 'WORM', and a slider for 'add' (0.00 GB).
- Reserved for snapshots:** A table showing reserved space:

Reserved for snapshots	20.00
Reserved for system	4.00
Reserved for replication	0.00
Free	70.06
- Snapshot definition:** A table showing the configuration for a snapshot:

Name	LV	Status
snap00000	lv0000	unused

Red arrows point from the 'Snapshot definition' table to the 'apply' button in the 'Vol. replication' section, and from the 'apply' button in the 'Snapshot definition' section to the 'apply' button in the 'Vol. replication' section.

3. Configure CLI/API on DSS V7

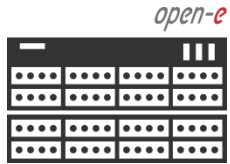


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Next please go to "SETUP" tab, "Administrator settings". In CLI/API Configuration function, check box "Use CLI/API" and in field "Password", please enter the Password and retype password. In order to confirm click **apply** button.

After reloading page, click on "Show advanced"

3. ... Continue

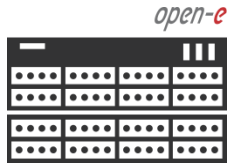


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Please click on **generate and download** button.

The screenshot shows the open-e web interface for configuring the CLI/API. The page title is "CLI/API Configuration". The "Use CLI/API" checkbox is checked. The "Allow IP:" field is empty. The "Set port:" field contains "22223". The "Password:" and "Confirm password:" fields are empty. Below the fields, there is a "Hide advanced <<" link. A red arrow points from the text "Please click on generate and download button." to the "generate and download" button. Below this button is a "download" button. At the bottom right of the configuration panel is an "apply" button. The page footer includes "Event Viewer" and "Data Storage Software V7 - All rights reserved".

3. ... Continue

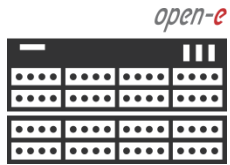


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Next, save the generated key into a local folder, e.g. C:\API.

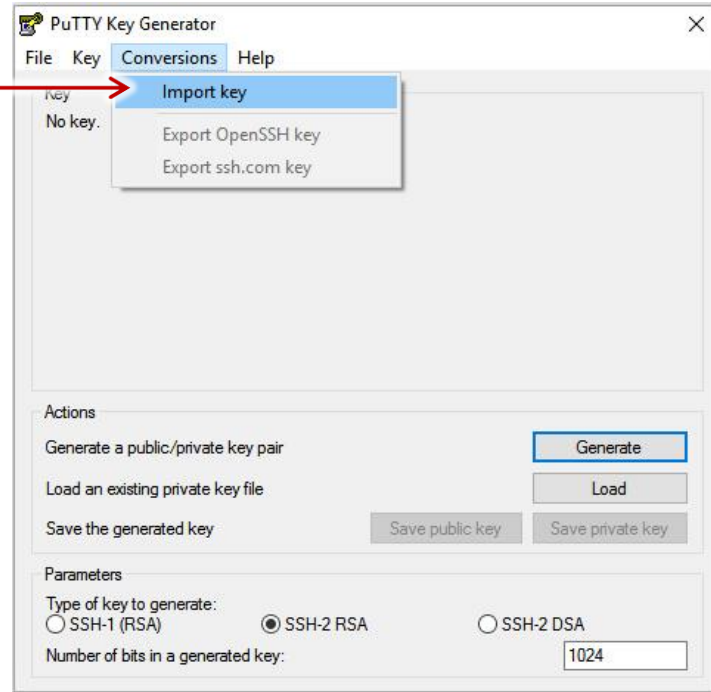
The screenshot shows the open-e web interface for 'ADMINISTRATOR SETTINGS'. The 'CLI/API Configuration' section is active, with the 'Use CLI/API' checkbox checked. Below this, there are fields for 'Allow IP:', 'Set port:', and 'Password:'. A 'Confirm password:' field is also present. A 'generate and download' button is visible. A modal dialog box titled 'Opening A0044603_20160725220259.key' is open, showing the file name and size (1.6 KB) and asking 'What should Firefox do with this file?'. The 'Save File' option is selected. A red arrow points from the 'generate and download' button in the main interface to the 'OK' button in the dialog box.

4. Convert the key with PuTTY Key Generator

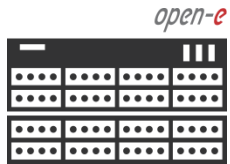


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Please run puttygen.exe and select **Conversions** and **Import Key** in the main menu.

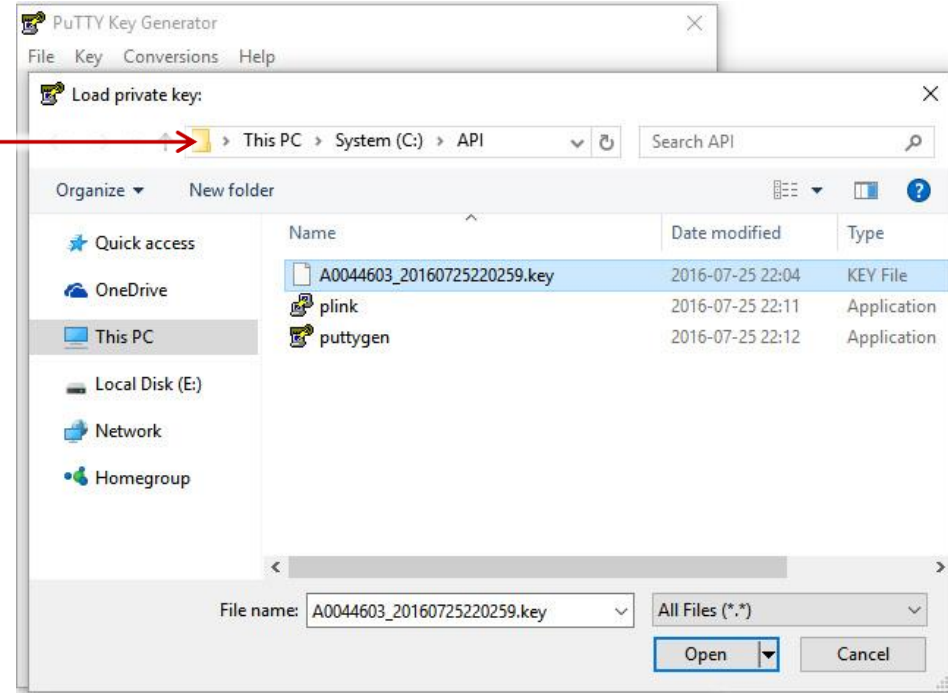


4. ... Continue

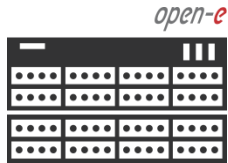


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Next, load key from e.g. C:\API.

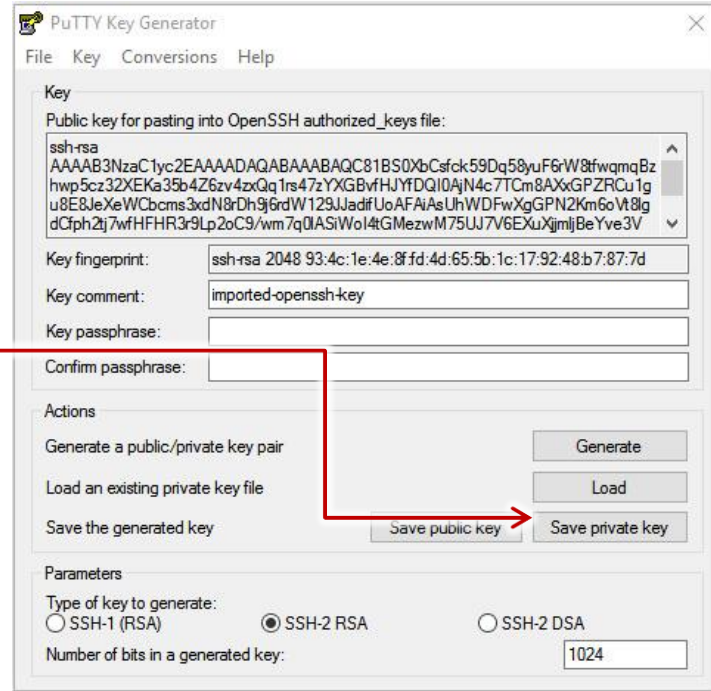


4. ... Continue

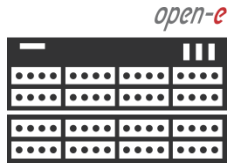


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Then, click on **Save private key** button.

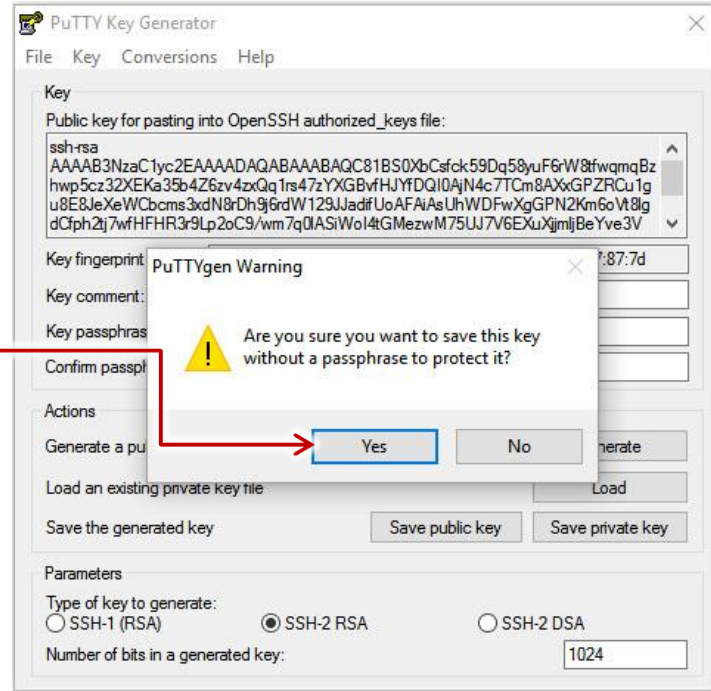


4. ... Continue

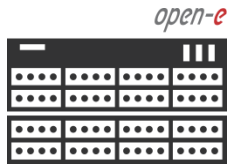


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Next, click on **YES** button

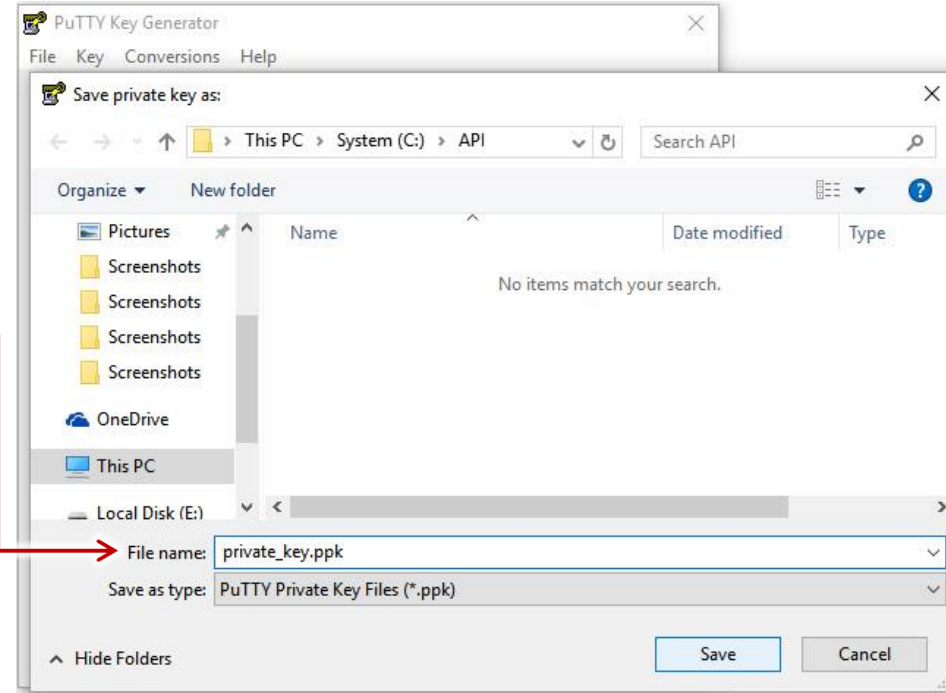


4. ... Continue



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Please save new **private_key.ppk** on C:\API folder.



Syntax examples for the plink command using the key:

```
plink -i path_to_the_downloaded_key -2 -p 22223 -l api ip_address command
```

- option: **-i** sets the path to the downloaded key file,
- option: **-2** sets the version of the SSH protocol used for the connection,
- option: **-p** sets the connection port (default: 22223),
- option: **-l** sets the user (the user must be **api**),
- option: **ip_address** sets the IP address of the storage server you want to connect to,
- option: **command**; the command consist of the command name and optional parameters and optional object names.

NOTE:

Plink uses capital "P" and the ssh use small "p" in the command line

HINT:

In order to list the full command set, please issue the 'help' command. If you enter a command with missing parameters or missing object name, the system will prompt with full syntax of the command. Once complete command is entered, it will run at once and non- interactive. A user script with API commands must be executed first on a testing system, not on a production system.

5. Issuing "snapshot_task" command with "start", "status" and "stop" options.

Please run the DOS command prompt box and change directory to the directory where you have saved the key, e.g.: C:\API

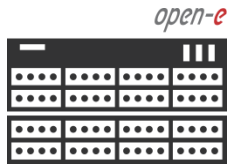
```
C:\API>plink.exe -i private_key.ppk -2 -P 22223 -l api 192.168.0.220 snapshot_task start snap00000
The server's host key is not cached in the registry. You
have no guarantee that the server is the computer you
think it is.
The server's rsa2 key fingerprint is:
ssh-rsa 1024 e6:ca:0e:b8:7f:3a:e6:de:32:7a:bc:fe:98:e3:e0:f4
If you trust this host, enter "y" to add the key to
PuTTY's cache and carry on connecting.
If you want to carry on connecting just once, without
adding the key to the cache, enter "n".
If you do not trust this host, press Return to abandon the
connection.
Store key in cache? (y/n) y
C:\API>
```

Please enter the "snapshot_task" CLI/API command with "start" option.

HINT:

Entering the command line, please use the tab key for auto-complete of the program and key path or name

5. ... Continue



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Please use "STATUS" tab, and "Tasks". In **Running tasks** function to check snapshot status. It should be **in use/active**.

The screenshot shows the open-e web interface with the following components:

- Navigation Bar:** SETUP, CONFIGURATION, MAINTENANCE, STATUS, HELP
- Page Header:** open-e ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS DATA STORAGE SOFTWARE V7
- Breadcrumbs:** You are here: Status > Tasks
- Tasks List:**
 - Backup
 - Restore from backup
 - Data (File) Replication
 - Antivirus
 - Volume Replication
 - Snapshots
- Running tasks Table:**

Name	Type	Start time
^ snap00000	Snapshot	2016-07-25 22:52:29
LV:		lv0000
Status:		in use/active
Size:		20.00 GB
Usage:		0.00%
- Tasks log Table:**

Time	Name	Type	Status	Action
2016-07-25 22:52:39	^ snap00000	Snapshot	OK	Started
- Footer:** Event Viewer, Data Storage Software V7 - All rights reserved

5. ... Continue

You can check the snapshot status with the following API command: "snapshot_task" with option "**status**".

```
Command Prompt
C:\API>plink.exe -i private_key.ppk -2 -P 22223 -l api 192.168.10.220 snapshot_task status snap00000
active
C:\API>
```

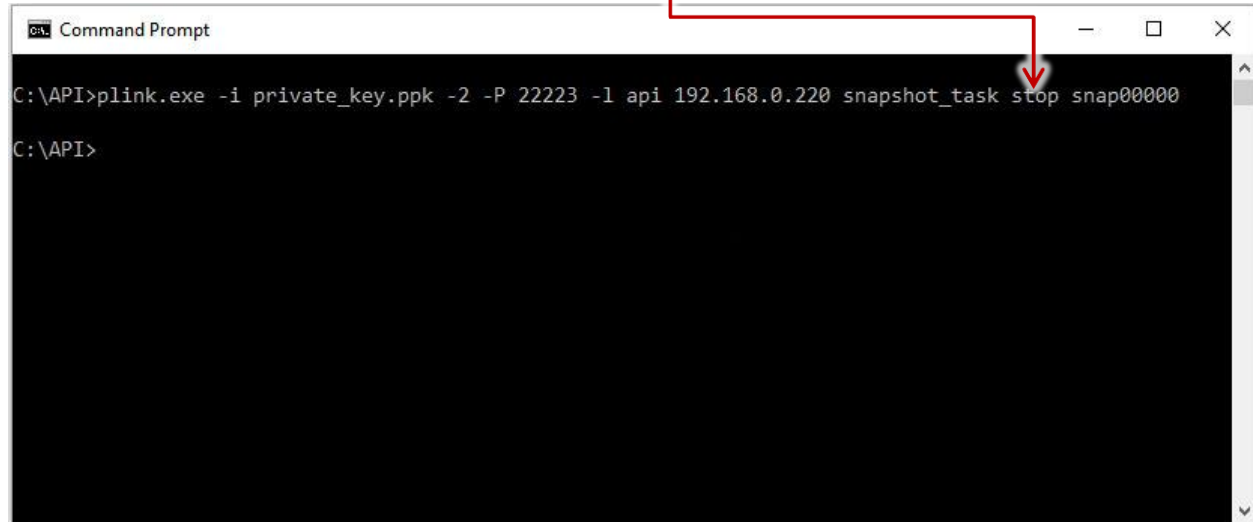
The API command "**snapshot_task status**" returns status: "active"

HINT:

Entering the command line please use tab key for auto-complete of the program and key path or name

5. ... Continue

In order to stop the snapshot remotely, please issue the "snapshot_task" command with option "stop".

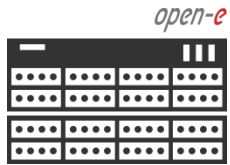


```
Command Prompt
C:\API>plink.exe -i private_key.ppk -2 -P 22223 -l api 192.168.0.220 snapshot_task stop snap00000
C:\API>
```

HINT:

Entering the command line, please use tab key for auto-complete of the program and key path or name.

5. ... Continue



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Now go to the "**STATUS**" tab, and "**Tasks**".
Running tasks function show no active snapshot.

Tasks

- Backup
- Restore from backup
- Data (File) Replication
- Antivirus
- Volume Replication
- Snapshots

Running tasks

Info
No running tasks!

Tasks log

Time	Name	Type	Status	Action
2016-07-25 23:16:55	snap00000	Snapshot	OK	Stopped
2016-07-25 22:52:39	snap00000	Snapshot	OK	Started

open-e

Thank You!
