

*Remote Snapshot Control
with API of
Data Storage Software V6*

Software Version: DSS ver. 6.00 up10

Presentation updated: October 2009

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ENTERPRISE LEVEL STORAGE OS
for EVERY BUSINESS

DSS V6
DATA STORAGE SOFTWARE

16 TB



Easy to use, GUI based management provides performance and security.



Reliable disk based backup and recovery, along with Snapshot capability enable fast and reliable backup and restore.



Easy to implement remote Replication, at block or volume level, enables cost-effective disaster recovery.



IP based storage management combines NAS and iSCSI functionality for centralized storage and storage consolidation.

www.open-e.com

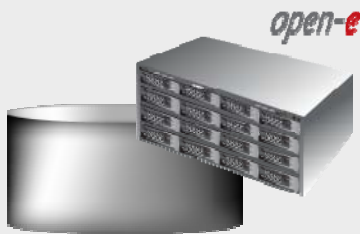
TO SET UP REMOTE SNAPSHOT CONTROL WITH API, PERFORM THE FOLLOWING STEPS:

1. Download and install OpenSSH for Windows
2. Create an iSCSI Logical Volume with Snapshot
3. Settings API configuration on DSS V6
4. Issue the „snapshot_task” command with „start”, „status” and „stop” options

NOTE:

You must use DSS V6 up10 build 3719 or newer

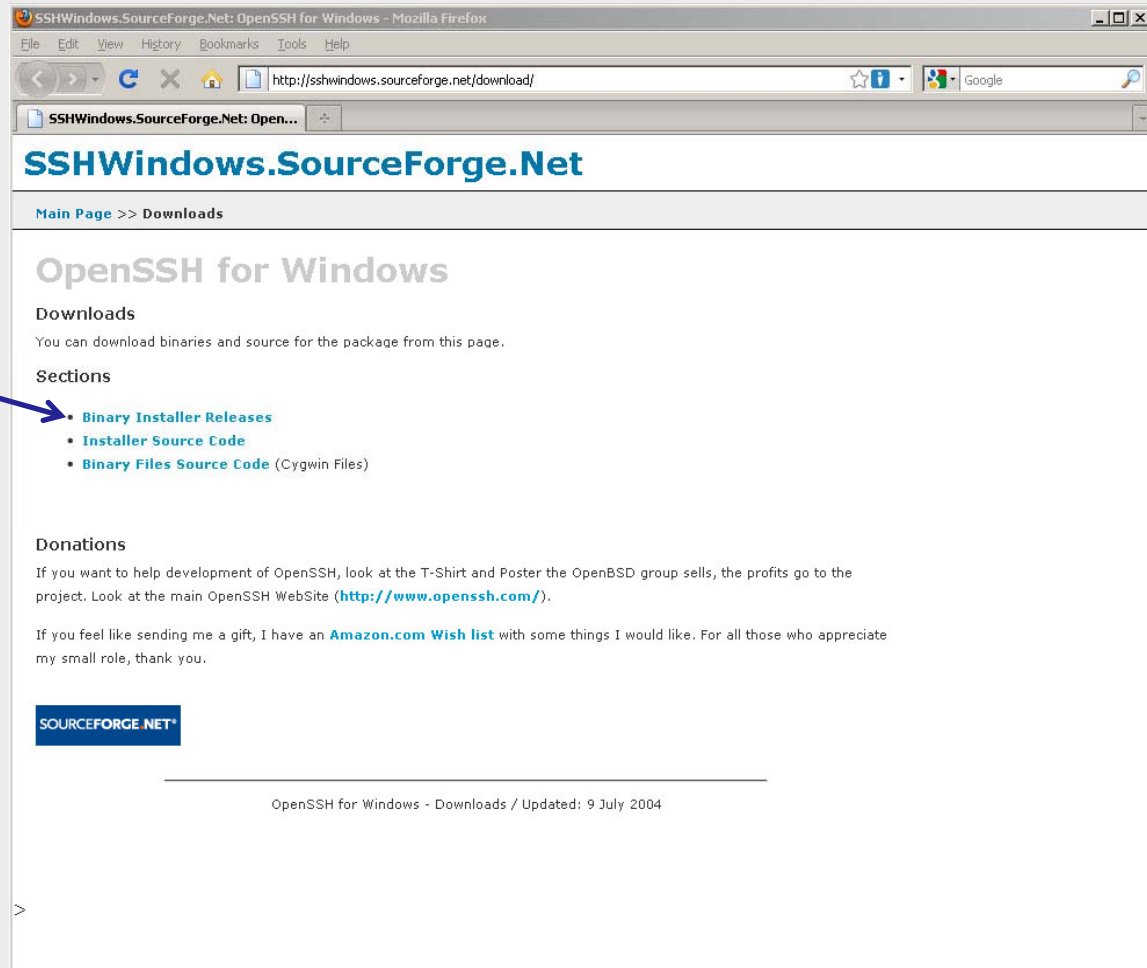
Remote Snapshot Control with API of DSS V6



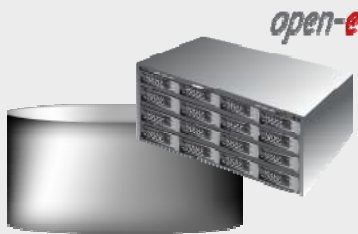
Data Storage Software (DSS)
Address IP:192.168.0.220

1. Download and install OpenSSH for Windows

Download OpenSSH from
<http://sshwindows.sourceforge.net/download> and install on your PC.



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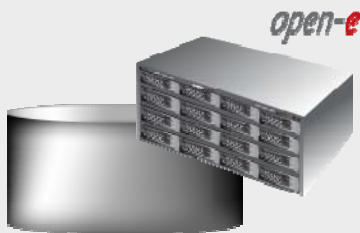
2. Create iSCSI Logical Volume with Snapshot

After logging on the DSS V6 please go to „CONFIGURATION“ tab, **Volume manager** and **Vol. groups**. Next select the appropriate volume group (**vg00**) from the list on the left and in **Volume manager** function create a **new iSCSI volume** of the required size. In order to confirm click **apply** button.

The screenshot shows the open-e DSS V6 web interface. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'You are here: CONFIGURATION > volume manager > Vol. groups > vg00'. The main content area is divided into two panels. The left panel, titled 'Vol. groups', shows a list with 'vg00' selected. The right panel, titled 'Volume manager', displays a table of system volumes and configuration options. The table shows reserved space for snapshots (0.00 GB), system (1.00 GB), and replication (0.00 GB), with 460.72 GB of free space. Below the table, the 'Action' is set to 'new iSCSI volume' and 'Options' is 'Just create volume'. There are checkboxes for 'Use volume replication', 'File I/O', 'Initialize', and 'Block I/O'. A slider indicates the total size (460.72 GB) and an 'add:' field shows '100.00 GB'. A red 'apply' button is at the bottom right. A footer note says 'Please apply changes or press "reload" button to discard'. The bottom status bar shows 'Event Viewer: [icon]' and 'Data Storage Software V6 - All rights reserved'.

System volumes	Size (GB)
Reserved Pool	4.00
Reserved for snapshots	0.00
Reserved for system	1.00
Reserved for replication	0.00
Free	460.72

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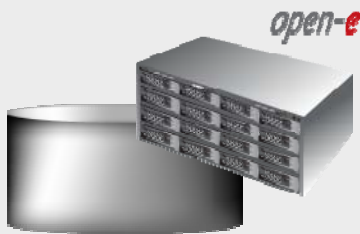
2. Create iSCSI Logical Volume with Snapshot

After reloading the page in the field **Action** select "new snapshot" of the required size (in this example 10 Gb), and click **apply** button.

The screenshot shows the open-e web interface for Data Storage Software V6. The breadcrumb trail is: CONFIGURATION > volume manager > Vol. groups > vg00. The 'Volume manager' section displays a table of logical volumes and system volumes. Below the table, the 'Action' dropdown is set to 'new snapshot' and the 'Assign to volume' dropdown is set to 'Just create snapshot volume'. A slider and input field for 'add:' show '10.00 GB'. An 'apply' button is located at the bottom right of the configuration area.

Logical Volume	Type	Snap.	Rep.	Init.	Blocksize (bytes)	Size (GB)
lv0000	B				N/A	100.00
System volumes						
						Size (GB)
Reserved Pool						4.00
Reserved for snapshots						0.00
Reserved for system						1.00
Reserved for replication						0.00
Free						360.72

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2. Create iSCSI Logical Volume with Snapshot

Next in Snapshot definition function assign 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 Data Storage Software V6. The navigation menu includes SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The breadcrumb trail indicates the current location: CONFIGURATION > volume manager > Vol. groups > vg00.

The main content area is divided into two sections:

- Vol. groups:** Shows a tree view with 'vg00' selected.
- Vol. replication:** Shows a table of reserved space and a form for creating a new volume.

Category	Value
Reserved for snapshots	10.00
Reserved for system	1.00
Reserved for replication	0.00
Free	350.72

The 'Vol. replication' section includes an 'Action' dropdown set to 'new NAS volume', checkboxes for 'Use volume replication' and 'WORM', a slider for volume size (0 to 350.72 GB), and an 'add:' input field set to '0.00 GB'. A red 'apply' button is visible.

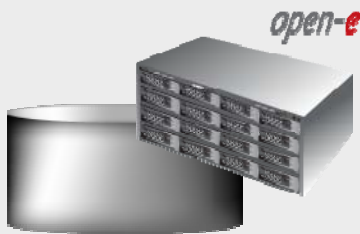
The **Snapshot definition** section contains a table:

Name	LV	Status
snap00000	lv0000	unused

A red 'apply' button is located below the table. A blue arrow points from the text in the blue box to the 'lv0000' dropdown menu.

At the bottom, there is an 'Event Viewer' icon and a footer: 'Data Storage Software V6 - All rights reserved'.

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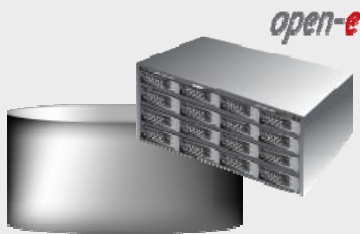
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3. Settings API configuration on DSS V6

Next please go to „SETUP“ tab, „administrator“. In API Configuration function, check box „Use 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“

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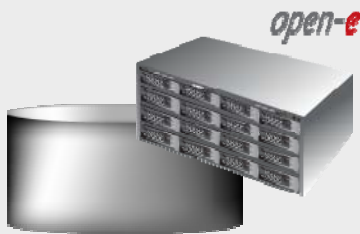
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3. Settings API configuration on DSS V6

The screenshot shows the web interface for Data Storage Software V6. The top navigation bar includes 'open-e', 'ENTERPRISE CLASS STORAGE OS for EVERY BUSINESS', and 'DATA STORAGE SOFTWARE V6'. Below this is a menu with 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates 'You are here: SETUP > administrator'. The main content area shows the 'API Configuration' dialog box. It has a title bar with a close button, a refresh button, and a help button. The configuration options are: 'Use API' (checked), 'Allow IP:' (empty text box), 'Set port:' (text box containing '22223'), 'Password:' (empty text box), and 'Confirm password:' (empty text box). Below these is a 'Hide advanced <<' link and a note: 'Please generate and download a key if you want to use the API functionality without a password.' There are two numbered instructions: '1. Generate and download new key by clicking "Generate and download"' and '2. Download already existing key by clicking "Download"'. At the bottom of the dialog are three buttons: 'generate and download', 'download', and 'apply'. The footer of the interface shows 'Event Viewer: [envelope icon]' and 'Data Storage Software V6 - All rights reserved'.

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

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3. Settings API configuration on DSS V6

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

Syntax examples for the SSH command using the key:

```
ssh -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.

HINT:

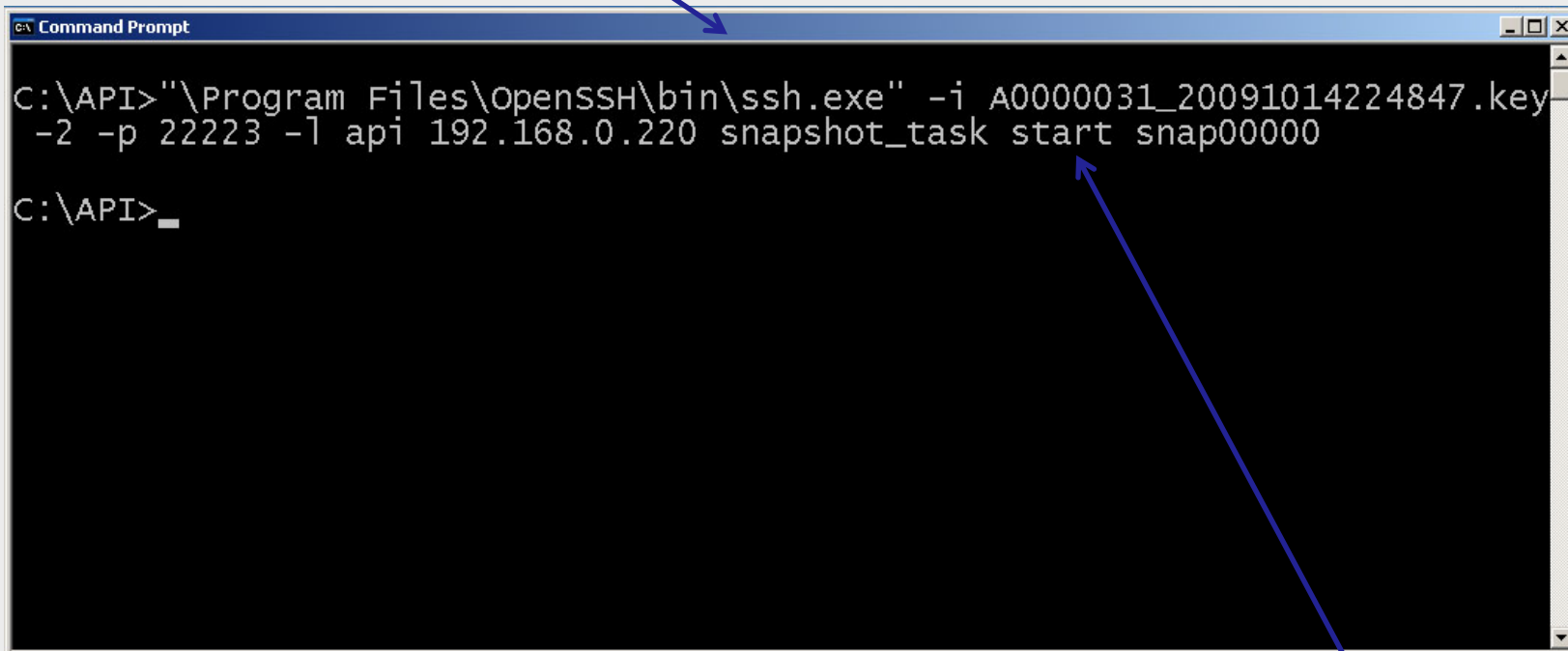
In order to list the full command set, please issue the 'help' command. If you enter a command with missing parameters or missing object name thy system will prompt with full syntax of the command. Once complete command is entered it will run at once and non- interactive. A user script with API commands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

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

4. Issuing „snapshot_task” command with „start”, „status” and „stop” options



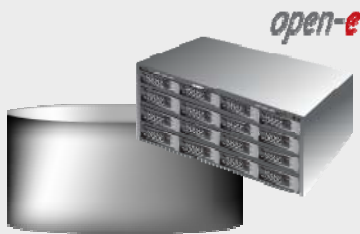
```
Command Prompt
C:\API>"\Program Files\OpenSSH\bin\ssh.exe" -i A0000031_20091014224847.key
-2 -p 22223 -l api 192.168.0.220 snapshot_task start snap00000
C:\API>_
```

HINT:

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

Please enter the "snapshot_task" API command with "start" option

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4. Issuing „snapshot_task” command with „start”, „status” and „stop” options

Please check the snapshot status in GUI menu: **STATUS** tab, **Tasks**. It must show “in use/active”.

The screenshot shows the open-e Data Storage Software V6 GUI. The top navigation bar includes 'SETUP', 'CONFIGURATION', 'MAINTENANCE', 'STATUS', and 'HELP'. The breadcrumb trail indicates the current location: 'STATUS > tasks > Snapshots'. The 'Tasks' menu is expanded, showing options like 'Backup', 'Restore from backup', 'Data Replication', 'Antivirus', 'Volume Replication', and 'Snapshots'. The 'Running tasks' section displays a table with one active snapshot task:

Name	Type	Start time
snap00000	Snapshot	2009-10-14 22:51:12

Below the table, the task details are shown:

- LV: lv0000
- Status: **in use/active**
- Size: 10.00 GB
- Usage: 0.01%

The 'Tasks log' section shows a list of recent tasks:

Time	Name	Type	Status	Action
2009-10-14 22:51:29	snap00000	Snapshot	OK	Started
2009-10-14 22:50:41	snap00000	Snapshot	OK	Stopped
2009-10-14 22:50:03	snap00000	Snapshot	OK	Started

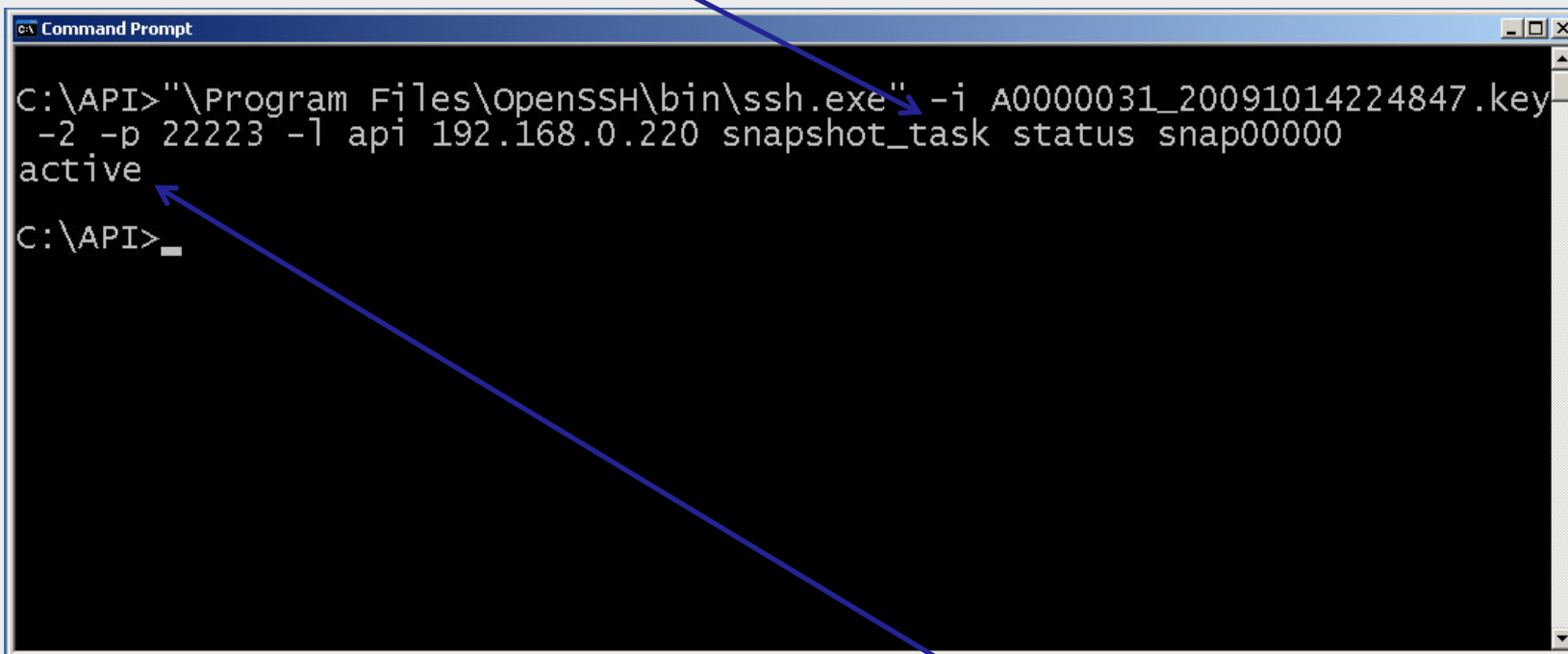
At the bottom, there is an 'Event Viewer' icon and a footer that reads 'Data Storage Software V6 - All rights reserved'.

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

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



```
C:\API>"\Program Files\OpenSSH\bin\ssh.exe" -i A0000031_20091014224847.key  
-2 -p 22223 -l api 192.168.0.220 snapshot_task status snap00000  
active  
C:\API>_
```

HINT:

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

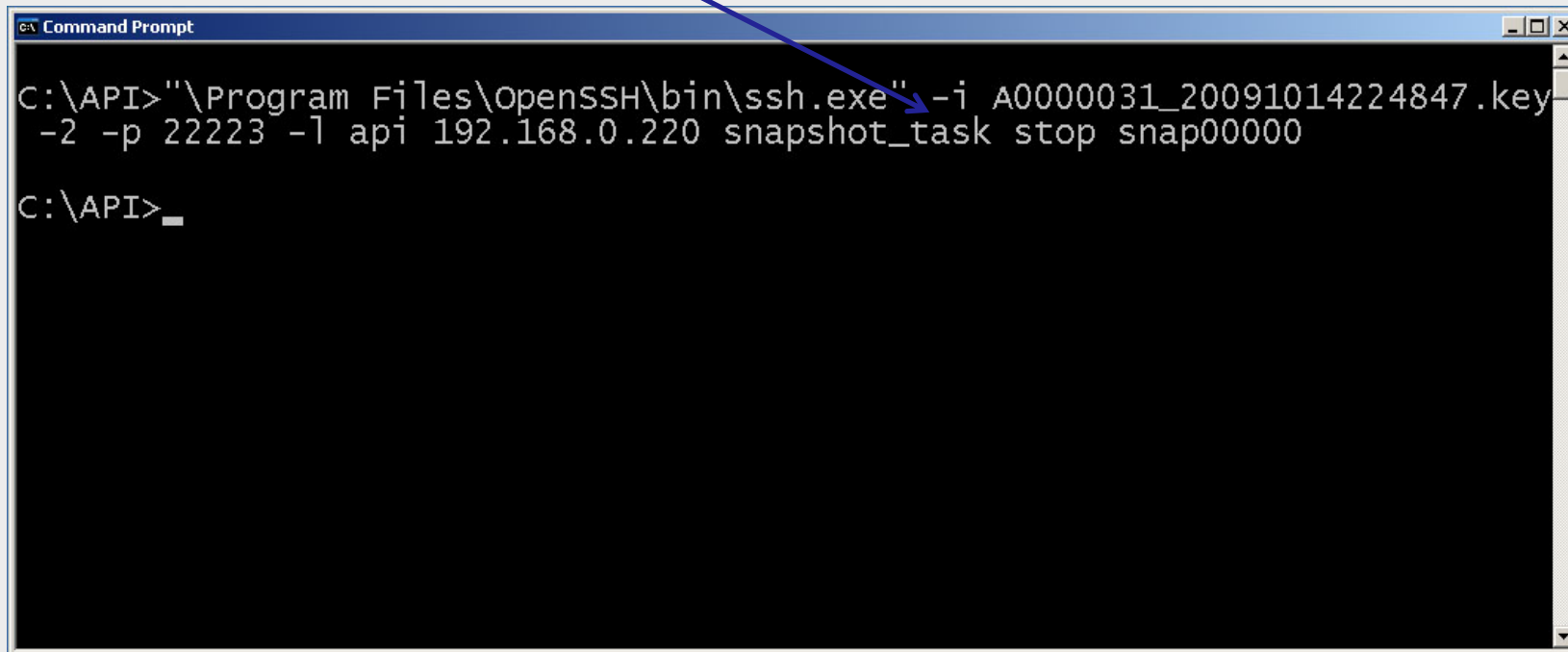
The API command "snapshot_task status" returns status: "active"

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In order to stop the snapshot remotely, please issue „snapshot_task” command with option „stop”

4. Issuing „snapshot_task” command with „start”, „status” and „stop” options

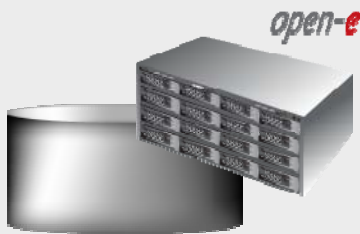


```
C:\API>"\Program Files\OpenSSH\bin\ssh.exe" -i A0000031_20091014224847.key  
-2 -p 22223 -l api 192.168.0.220 snapshot_task stop snap00000  
  
C:\API>_
```

HINT:

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

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4. Issuing „snapshot_task” command with „start”, „status” and „stop” options

Now the function **STATUS** tab,
Tasks, tasks show no active snapshot.

The screenshot shows the web interface for open-e Data Storage Software V6. The top navigation bar includes tabs for SETUP, CONFIGURATION, MAINTENANCE, STATUS, and HELP. The current page is titled "You are here: STATUS > tasks > Snapshots".

The "Tasks" section on the left lists several task types: Backup, Restore from backup, Data Replication, Antivirus, Volume Replication, and Snapshots. The "Snapshots" task type is selected.

The "Running tasks" section shows an "Info" message: "No running tasks!".

The "Tasks log" section displays a table of recent tasks:

Time	Name	Type	Status	Action
2009-10-15 00:00:43	snap00000	Snapshot	OK	Stopped
2009-10-14 22:51:29	snap00000	Snapshot	OK	Started
2009-10-14 22:50:41	snap00000	Snapshot	OK	Stopped
2009-10-14 22:50:03	snap00000	Snapshot	OK	Started

The footer of the interface includes "Event Viewer" and "Data Storage Software V6 - All rights reserved".

Thank You!