



Virtuozzo PowerPanel

User's Guide

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Virtuozzo International GmbH

Vordergasse 59

8200 Schaffhausen

Switzerland

Tel: + 41 52 632 0411

Fax: + 41 52 672 2010

<https://virtuozzo.com>

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Contents

1. About Virtuozzo PowerPanel	1
2. Managing Virtual Environments in Virtuozzo PowerPanel	2
2.1 Logging In to Virtuozzo PowerPanel	2
2.1.1 Logging In to Manage Single Virtual Environments	4
2.2 Starting, Stopping, and Resetting Virtual Machines and Containers	5
2.3 Repairing Containers	6
2.4 Reinstalling Containers	7
2.5 Changing User Passwords for Virtual Machines and Containers	8
2.6 Managing Virtual Machine and Container Backups	9
2.6.1 Attaching VE Backups	10
2.6.2 Detaching VE Backups	13
2.7 Logging In to Virtual Machines and Containers via VNC	14

CHAPTER 1

About Virtuozzo PowerPanel

Virtuozzo PowerPanel provides an easy way for you to manage all your virtual machines and containers from one web panel.

In Virtuozzo PowerPanel, you can:

- start, stop, and reset your virtual machines and containers,
- reinstall your containers,
- change user passwords for your virtual machines and containers,
- create, restore, and delete backups of your virtual machines and containers,
- log in to your virtual machines and containers via VNC.

The next chapter explains how to log in to Virtuozzo PowerPanel and perform each of these tasks.

CHAPTER 2

Managing Virtual Environments in Virtuozzo PowerPanel

2.1 Logging In to Virtuozzo PowerPanel

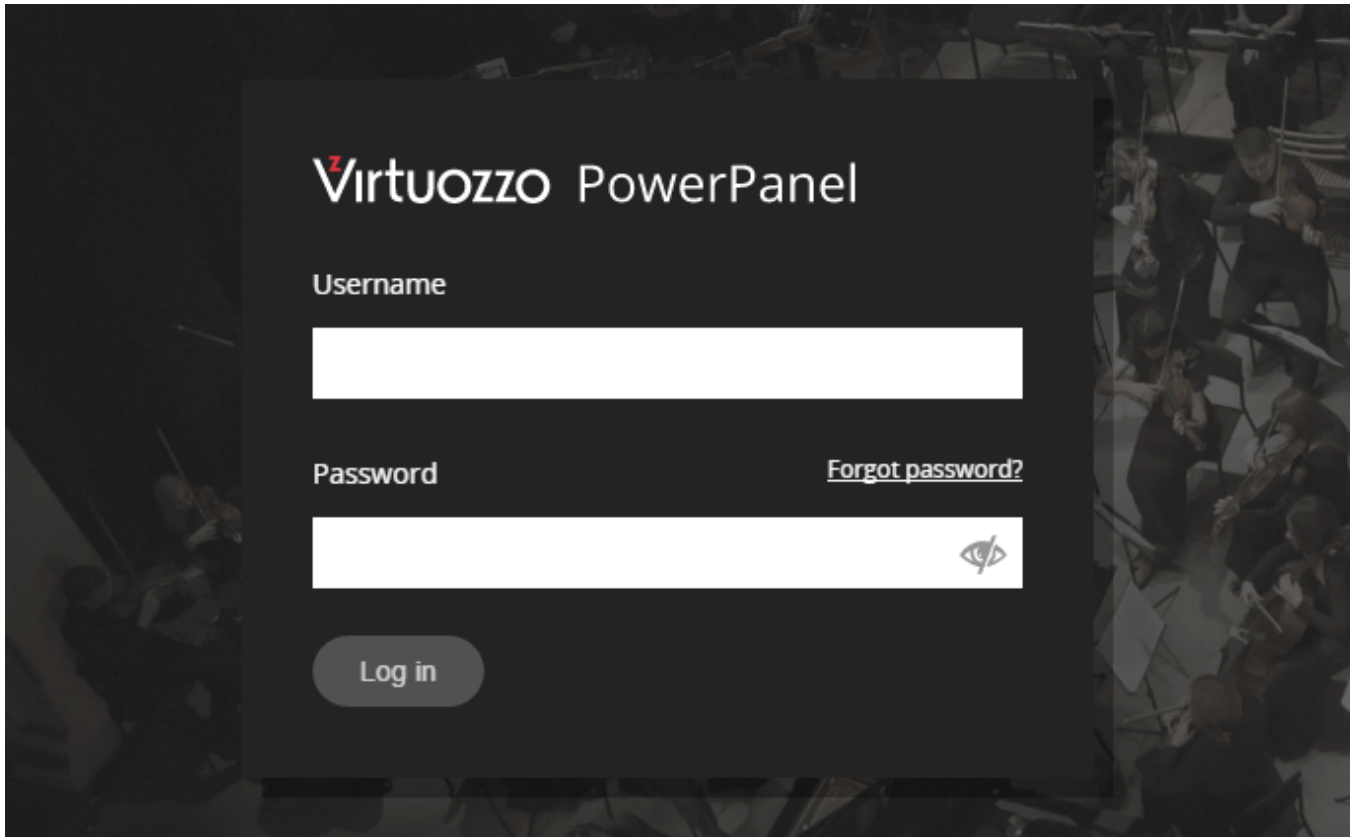
To log in to the Virtuozzo PowerPanel web interface, visit its address obtained from your service provider in a supported web browser.

Note: The latest versions of popular web browsers are supported: Chrome, Firefox, Edge, Opera, Safari.

If prompted, accept the self-signed certificate and add it to browser's exceptions.

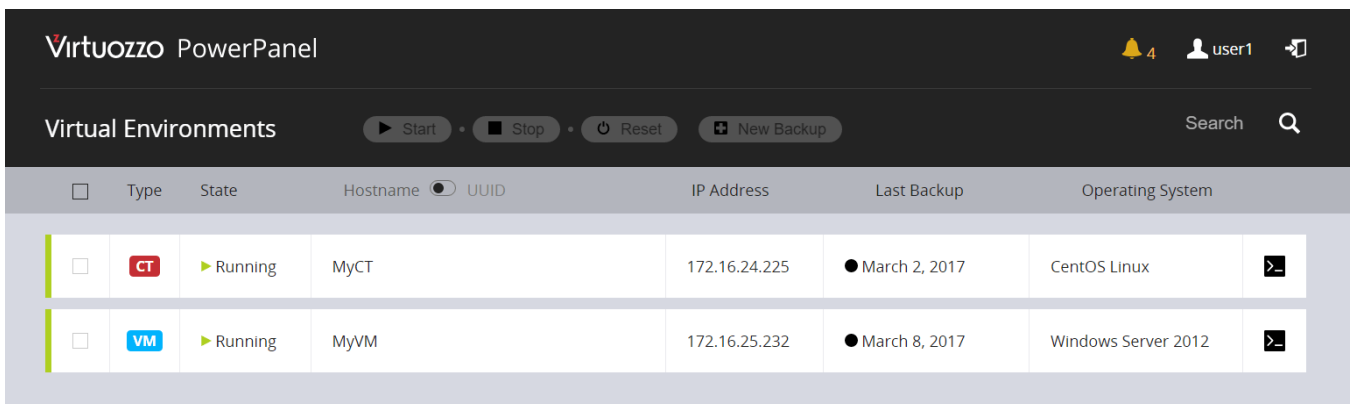
Note: Some browsers, e.g., Firefox, require exceptions to be added in the form of `<controller_address>:<port>` for ports 6556, 6557, and 35357.

You will be taken to the welcome screen where you will need to enter the username and password obtained from your service provider.



After logging in, you will be taken to the main screen of Virtuozzo PowerPanel.

Note: At any time, you can click the Virtuozzo PowerPanel logo in the top left corner to return to the main screen.



On the main screen you can see the list of your virtual environments. Above the list you can see buttons for tasks that you can perform on multiple VEs if you have more than one. In the top right corner you can see

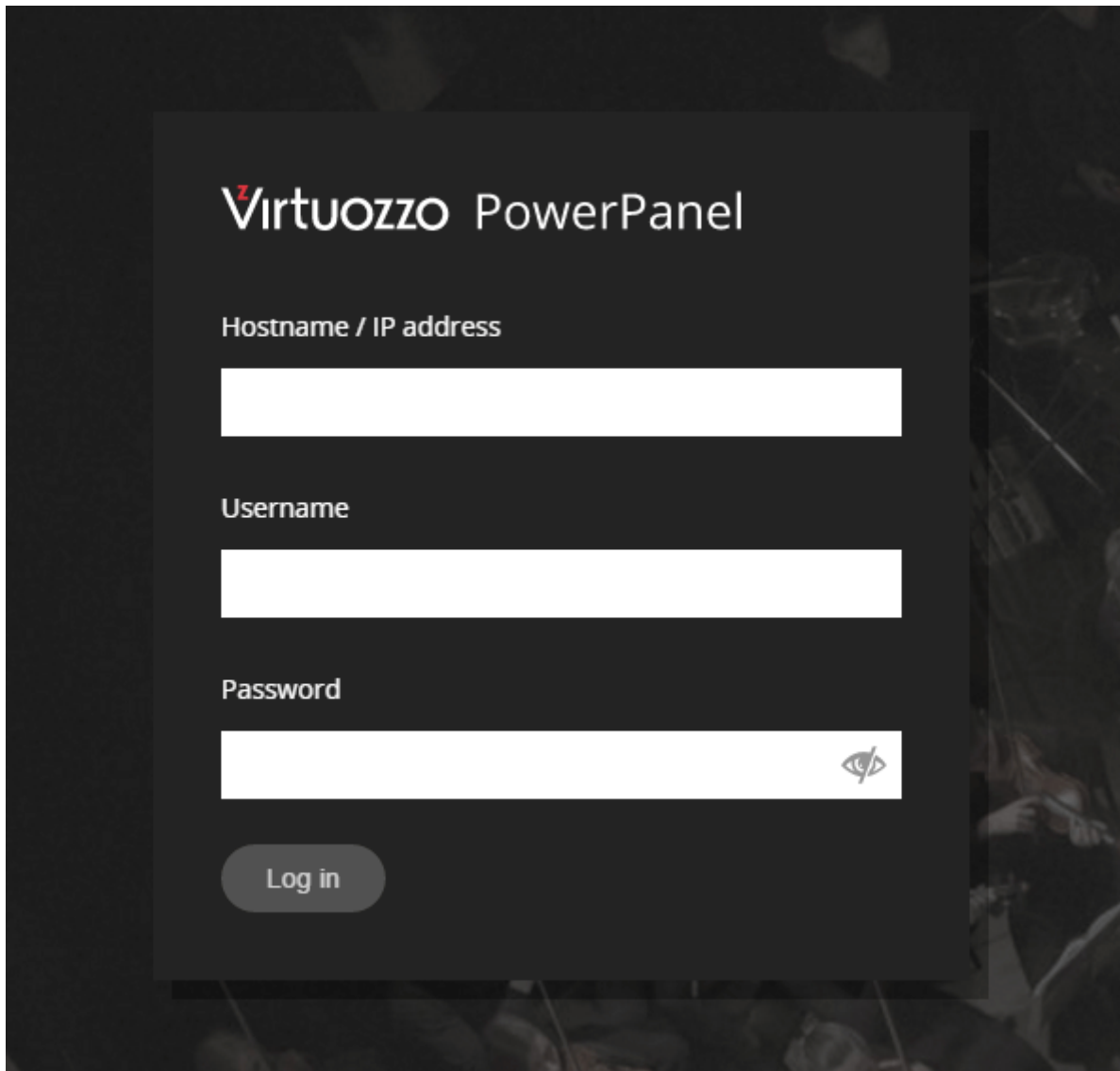
your username as well as the bell icon, clicking which opens the log screen, and the log out icon.

Each VE area in the list expands on click, showing more details about the VE, including state, type, UUID, hostname, IP address (assigned by the service provider), operating system, virtual hardware configuration and real-time resource consumption, backups, and VNC console. In the VE area, you can also see the buttons for tasks available for this specific VE.

The screenshot displays the Virtuozzo PowerPanel interface for a specific virtual environment (VE) named 'MyCT'. At the top, there is a header bar with a checkbox, a red 'CT' icon, a 'Running' status indicator, the name 'MyCT', the IP address '172.16.24.225', the creation date 'March 2, 2017', and the operating system 'CentOS Linux'. Below the header, there is a row of action buttons: 'Start', 'Stop', 'Reset', 'Repair', 'Reinstall', 'Change password', and 'New backup'. The main content area is divided into three sections: 'Information', 'Specifications', and 'Backups'. The 'Information' section shows the state as 'running', type as 'Container', hostname as 'MyCT', IP address as '172.16.24.225', and UUID as '0f29802f-6392-4552-b46c-1e80761fca4f'. The 'Specifications' section shows resource usage: CPU at 4 cores, Memory at 3% of 512 MB, and Storage at 20% of 10 GB. The 'Backups' section shows a backup from 'Mar 2, 2017, 12:34:13 AM' with a size of 256.41 MB, and buttons for 'Restore backup' and 'Delete backup'.

2.1.1 Logging In to Manage Single Virtual Environments

Virtuozzo PowerPanel is designed to enable easy management of multiple VEs from a single web panel. If for some reason, you need to manage just one VE in Virtuozzo PowerPanel, you can do so by logging in from an old-style welcome screen accessible at https://<PowerPanel_address>/login/ve.



You will need to provide your VE's hostname or IP address as well as credentials for logging in to the VE itself (and not the credentials for Virtuozzo PowerPanel).

2.2 Starting, Stopping, and Resetting Virtual Machines and Containers

To start, stop, or reset one or more VEs, check the boxes of the required VEs, then click the respective task button—**Start**, **Stop**, or **Reset**—above the VE list.

To start, stop, or reset a single VE, you can also click the VE area to expand it, then click the respective task button—**Start**, **Stop**, or **Reset**—in the VE area.

Important: Resetting a VE is equivalent to pressing the reset button on the computer and means the hard reset. Any unsaved data in the virtual environment’s RAM is lost during a reset. Make sure you save all necessary data to disk before resetting a VE.

2.3 Repairing Containers

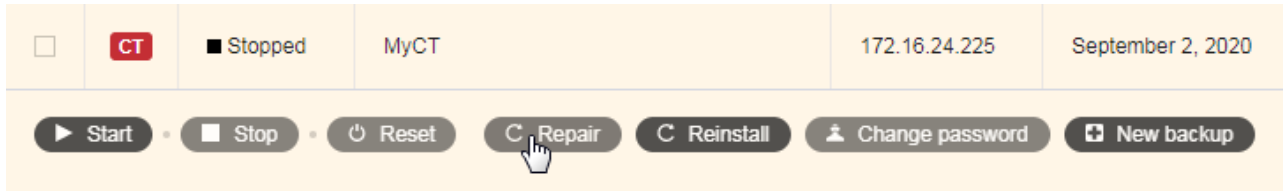
Note: This feature requires all nodes in the PowerPanel infrastructure to run Virtuozzo Hybrid Server 7.5 or newer.

If a container malfunctions, starting it in the repair mode may help you fix it. Do the following:

1. Open the broken (original) container details in the list and click **Repair**.

A temporary container will be created with the same name, parameters, and user accounts as the

original container. The temporary container will start and the original container's root will be mounted to /repair in it.



2. Log in to the temporary container as you would log in to the original one (see [Logging In to Virtual Machines and Containers via VNC](#) (page 14)). You can now save the critical data from /repair to an external location or try to fix the container.

Important: Never save the critical data to the temporary container. It will be automatically destroyed when stopped.

3. After saving the critical data or fixing the original container, stop the temporary container by clicking **Stop**.

The original container's root will be unmounted and the temporary container will be destroyed.

4. If the original container has been fixed, start it by clicking **Start** and log in to it as usual. If you saved the critical data and the original container cannot be fixed, reinstall it as described in [Reinstalling Containers](#) (page 7) and upload the saved data back.

2.4 Reinstalling Containers

Reinstalling a container recreates it anew with the freshly installed guest operating system. This may help if critical files have been modified, replaced, or deleted, resulting in container malfunction.

After reinstallation, personal data from the old container can typically be found in the /old directory. User credentials also remain the same by default.

Important: Reinstall operation can be customized by your service provider. Before reinstalling a container, make sure that you will keep your data afterwards. Alternatively, save your data outside the container before reinstalling it.

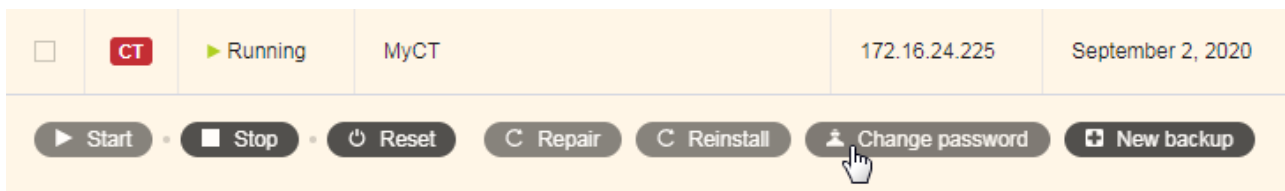
To reinstall a container, first make sure it is stopped, then click **Reinstall** in container's expanded VE area.



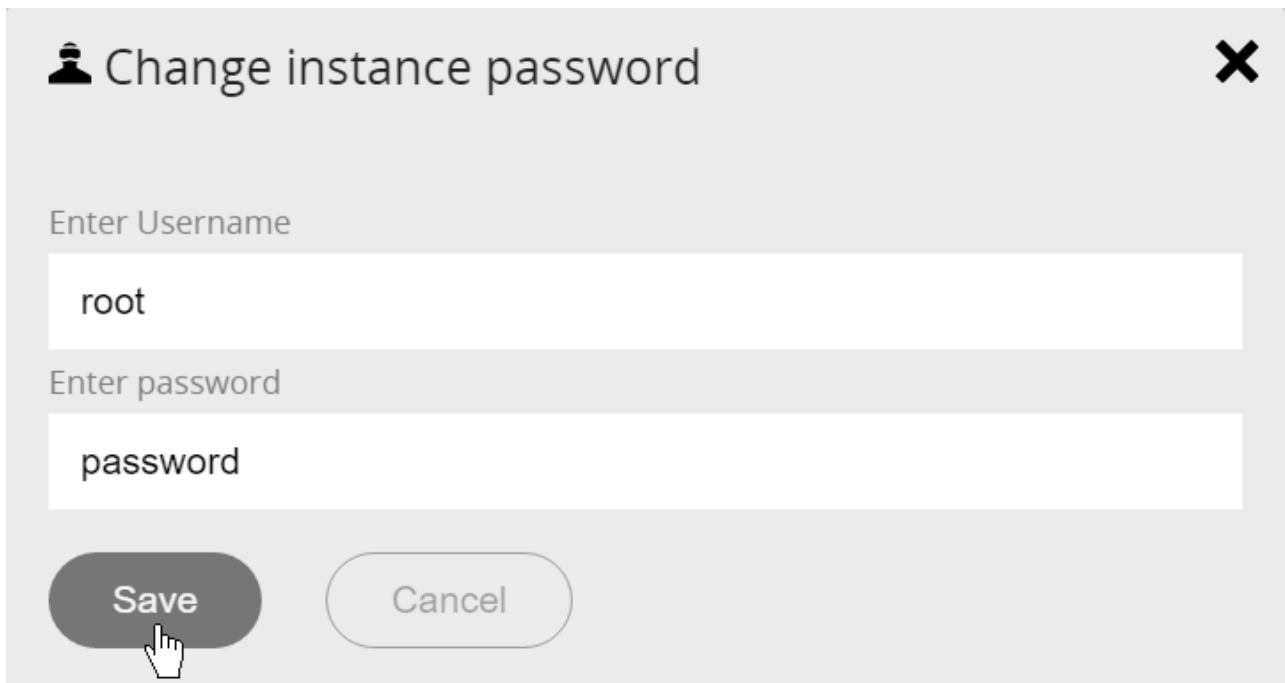
2.5 Changing User Passwords for Virtual Machines and Containers

You can change passwords for local user accounts in your virtual environments. To do this:

1. Click the VE area to expand it, then click **Change password**.



2. In the window that pops up, enter the name of the user to change the password for and the new password.

A screenshot of a dialog box titled 'Change instance password'. The dialog has a close button (X) in the top right corner. It contains two input fields: 'Enter Username' with the text 'root' and 'Enter password' with the text 'password'. At the bottom, there are two buttons: 'Save' and 'Cancel'. A mouse cursor is pointing at the 'Save' button.

2.6 Managing Virtual Machine and Container Backups

In Virtuozzo PowerPanel, you can create, restore, attach or detach, and delete backups of your virtual environments.

To create a backup of one or more VEs, check the boxes of the required VEs and click the **New Backup** button above the VE list.

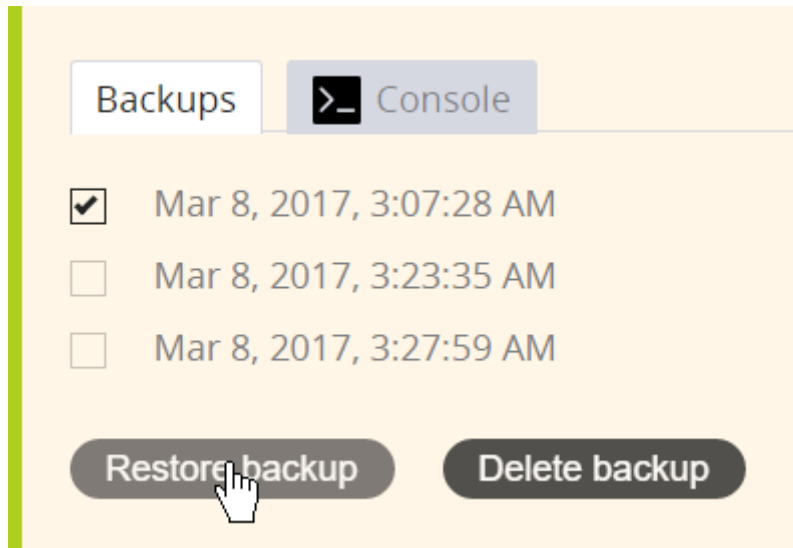
The screenshot shows the Virtuozzo PowerPanel interface. At the top, it says "2 VEs selected". Below this, there are four buttons: "Start", "Stop", "Reset", and "New Backup". The "New Backup" button is highlighted with a mouse cursor. Below the buttons is a table with the following columns: "Type", "State", "Hostname", "UUID", "IP Address", and "Last Backup".

<input type="checkbox"/>	Type	State	Hostname	UUID	IP Address	Last Backup
<input checked="" type="checkbox"/>	CT	▶ Running	MyCT		172.16.24.225	● March 2, 2017
<input checked="" type="checkbox"/>	VM	▶ Running	MyVM		172.16.25.232	● March 8, 2017

To create a backup of a single VE, you can also click the VE area to expand it, then click the **New Backup** button in the VE area.

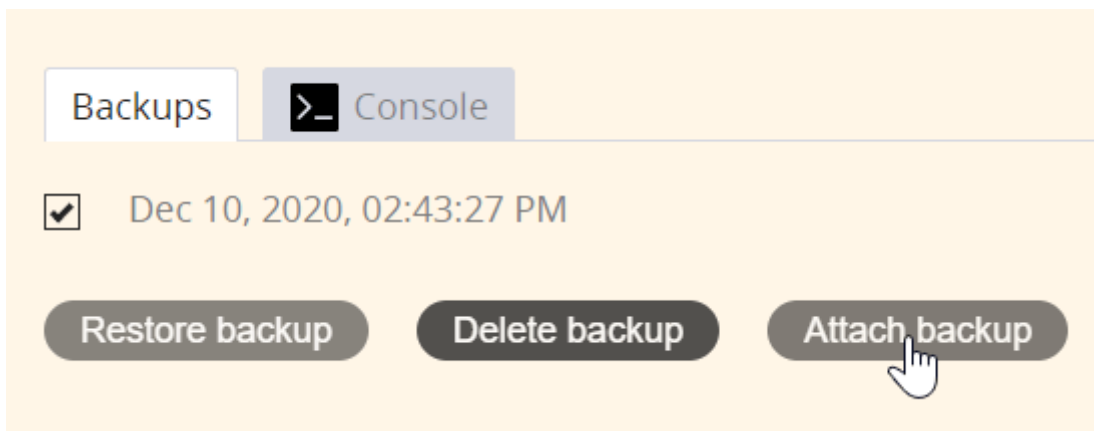
The screenshot shows the expanded area for a single virtual environment, "MyCT". It displays the following information: "CT", "Running", "MyCT", "172.16.24.225", and "September 2, 2020". Below this information, there are several buttons: "Start", "Stop", "Reset", "Repair", "Reinstall", "Change password", and "New backup". The "New backup" button is highlighted with a mouse cursor.

To restore or delete a VE backup, expand the VE area, select the backup on the **Backups** tab in the bottom of the VE area, and click the respective task button: **Restore backup** or **Delete backup**.



2.6.1 Attaching VE Backups

To attach a VE backup, expand the VE area, select the backup on the **Backups** tab in the bottom of the VE area, and click **Attach backup**.



Attached backups need to be mounted inside the VE.

Note: Changes made to a mounted backup will be lost when it is detached.

The steps to mount a backup depend on VE type:

- In a container, locate an unmounted, read-only part named `/dev/ploop...p1` and mount it. For example:

```
# lsblk -pl -o NAME,RO,TYPE,MOUNTPOINT
NAME          RO TYPE MOUNTPOINT
/dev/ploop21323  0 disk
/dev/ploop21323p1 0 part /
/dev/ploop44663  1 disk
/dev/ploop44663p1 1 part
```

```
# mount /dev/ploop44663p1 /mnt/
mount: /dev/ploop44663p1 is write-protected, mounting read-only
```

You can now access the backup contents. For example:

```
::
```

```
# ls /mnt/
bin boot dev etc fastboot home lib lib64 lost+found media
mnt opt proc root run sbin srv sys tmp usr var
```

- In a Windows virtual machine, run `diskmgmt.msc` from the Command Prompt and bring the disk with the backup contents online. It will be assigned a letter and appear in File Explorer.
- In a Linux virtual machine, first, locate and enable the backup using the `prl_backup` utility supplied by the guest tools. For example:

```
# prl_backup list
List of disabled attached backups:
[1] /dev/sdb
```

```
# prl_backup enable /dev/sdb
```

```
# prl_backup list -e
List of enabled attached backups:
[1] /dev/sdb (/dev/mapper/backup6770749ad8fef)
NAME          TYPE  SIZE FSTYPE      UUID
backup6770749ad8fef  dm    64G
  backup6770749ad8fefp1 part  500M xfs          b39ba0de-faf0-43be-b344-5b6782dc76e4
  backup6770749ad8fefp2 part  63.5G LVM2_member oaqfeX-eoPK-CGe1-OKje-eFWQ-q4BP-KcJ9oQ
```

Now you can mount the xfs part with `mount`. For example:

```
# mount -o nouuid /dev/mapper/backup6770749ad8fefp1 /mnt/part1
```

You can now access this volume's contents. For example:

```
# ls -l /mnt/part1
config-3.10.0-229.e17.x86_64
grub
grub2
initramfs-0-rescue-c0b0e6fa5ca24847b977445b4c2fcfaa.img
```

```

initramfs-3.10.0-229.el7.x86_64.img
initramfs-3.10.0-229.el7.x86_64kdump.img
initrd-plymouth.img
symvers-3.10.0-229.el7.x86_64.gz
System.map-3.10.0-229.el7.x86_64
vmlinuz-0-rescue-c0b0e6fa5ca24847b977445b4c2fcfaa
vmlinuz-3.10.0-229.el7.x86_64

```

Next, rename the LVM part to avoid having two volume groups with the same name. For example:

```

# vgimportclone -n backup_part2 /dev/mapper/backup6770749ad8fefp2
...
Volume group "centos" successfully renamed to "backup_part2"
...
Found volume group "backup_part2" using metadata type lvm2
...

```

Now find the mountable volumes in the renamed volume group. For example:

```

# lvscan | grep backup_part2
inactive          '/dev/backup_part2/swap' [3.88 GiB] inherit
inactive          '/dev/backup_part2/home' [19.54 GiB] inherit
inactive          '/dev/backup_part2/root' [40.03 GiB] inherit

```

Enable the volumes you need. For example:

```
# lvchange -ay /dev/backup_part2/home
```

```
# lvchange -ay /dev/backup_part2/root
```

Finally, mount the volumes. For example:

```
# mount -o nouuid /dev/backup_part2/root /mnt/part2/root/
```

```
# mount -o nouuid /dev/backup_part2/home /mnt/part2/home/
```

You can now access the contents of these volumes as well. For example:

```

# ls /mnt/part2/root/
bin boot dev etc home lib lib64 media mnt opt proc
root run sbin srv sys tmp usr var

```

```

# ls /mnt/part2/home
myfile1.txt myfile2.txt

```

2.6.2 Detaching VE Backups

To detach a mounted VE backup from a container or a Windows VM, click **Detach backup**. Before you detach a mounted backup from a Linux VM, however, unmount the disk(s) and disable the backup inside the VM.

You may need to do the following:

1. Unmount the disks. For example:

```
# umount /mnt/part1
# umount /mnt/part2/home/
# umount /mnt/part2/root/
```

2. Disable the volumes. For example:

```
# lvchange -an /dev/backup_part2/home
# lvchange -an /dev/backup_part2/root
```

3. Remove the volume group. For example:

```
# vgremove backup_part2
Do you really want to remove volume group "backup_part2"
containing 3 logical volumes? [y/n]: y
Logical volume "swap" successfully removed
Logical volume "home" successfully removed
Logical volume "root" successfully removed
Volume group "backup_part2" successfully removed
```

4. Disable the backup. For example:

```
# prl_backup disable /dev/sdb
```

Now you can detach the backup from the Linux VM by clicking **Detach backup**.

If you accidentally clicked **Detach backup** before taking these steps, clean up the Linux VM as follows:

1. Unmount the unavailable disks. For example:

```
# umount /mnt/part1
# umount /mnt/part2/home/
# umount /mnt/part2/root/
```

2. Remove the leftover LVM devices. For example:

```
# dmsetup ls --tree
backup_part21-home (253:6)
  backup32dfd4032a21dp2 (253:5)
    backup32dfd4032a21d (253:3)
      (8:16)
backup_part21-root (253:7)
```



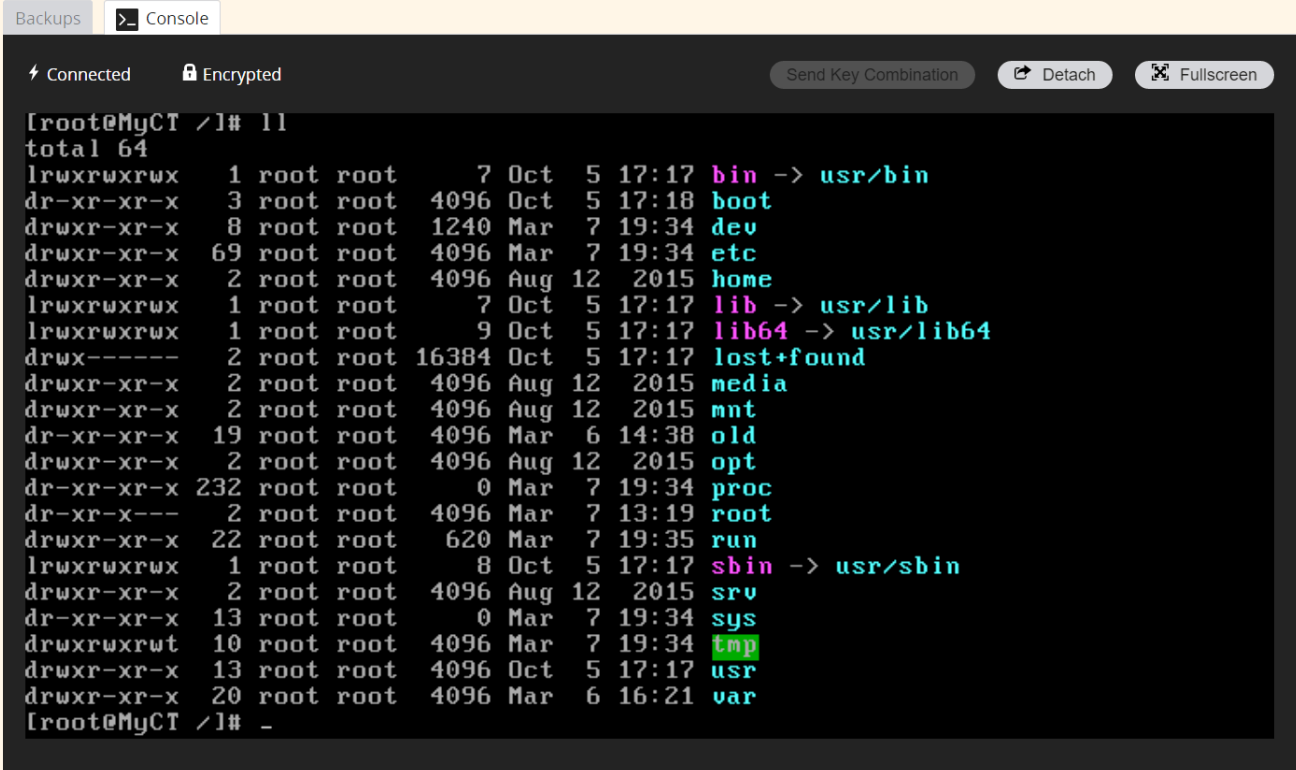
```
backup32dfd4032a21dp2 (253:5)
  backup32dfd4032a21d (253:3)
    (8:16)
backup32dfd4032a21dp1 (253:4)
  backup32dfd4032a21d (253:3)
    (8:16)
<...>
```

```
# dmsetup remove backup_part21-home
# dmsetup remove backup_part21-root
# dmsetup remove backup32dfd4032a21dp2
# dmsetup remove backup32dfd4032a21dp1
# dmsetup remove backup32dfd4032a21d
```

2.7 Logging In to Virtual Machines and Containers via VNC

You can connect to and manage your virtual machines and containers via the VNC console. To do this, click the console icon of the required VE in the VE list. The VE area will expand and switch to the **Console** tab in the bottom.

Note: VNC console only works for running VEs.



```
[root@MyCT /]# ll
total 64
lrwxrwxrwx 1 root root 7 Oct 5 17:17 bin -> usr/bin
dr-xr-xr-x 3 root root 4096 Oct 5 17:18 boot
drwxr-xr-x 8 root root 1240 Mar 7 19:34 dev
drwxr-xr-x 69 root root 4096 Mar 7 19:34 etc
drwxr-xr-x 2 root root 4096 Aug 12 2015 home
lrwxrwxrwx 1 root root 7 Oct 5 17:17 lib -> usr/lib
lrwxrwxrwx 1 root root 9 Oct 5 17:17 lib64 -> usr/lib64
drwx----- 2 root root 16384 Oct 5 17:17 lost+found
drwxr-xr-x 2 root root 4096 Aug 12 2015 media
drwxr-xr-x 2 root root 4096 Aug 12 2015 mnt
dr-xr-xr-x 19 root root 4096 Mar 6 14:38 old
drwxr-xr-x 2 root root 4096 Aug 12 2015 opt
dr-xr-xr-x 232 root root 0 Mar 7 19:34 proc
dr-xr-x--- 2 root root 4096 Mar 7 13:19 root
drwxr-xr-x 22 root root 620 Mar 7 19:35 run
lrwxrwxrwx 1 root root 8 Oct 5 17:17 sbin -> usr/sbin
drwxr-xr-x 2 root root 4096 Aug 12 2015 srv
dr-xr-xr-x 13 root root 0 Mar 7 19:34 sys
drwxrwxrwt 10 root root 4096 Mar 7 19:34 tmp
drwxr-xr-x 13 root root 4096 Oct 5 17:17 usr
drwxr-xr-x 20 root root 4096 Mar 6 16:21 var
[root@MyCT /]# -
```