Rescue Mode

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> *How to access your server when it becomes unreachable and you cannot use our SOS (Serial Over SSH) service.*

There are times when a server becomes unreachable over SSH due to broken networking, a bad install, misconfiguration, a kernel upgrade, bad firewall rules, etc.

If you have your server's root password and your SSH key, you should use our S.O.S (Serial over SSH) service. For instructions on how to use SOS, please click here.

Using Rescue Mode

When you can't log into your server at all (e.g. you don't have the root password or the server won't boot up) you can use our Rescue Mode, which loads a vanilla Alpine Linux image into your server's RAM.

To enter Rescue Mode, you need to access the server's detail page via the Packet portal. Click on *Rescue* within the **Server Actions** dropdown.

Clicking on Rescue reboots the server and loads the Rescue OS. Once Rescue OS is loaded, the server boots into it.

Now you can SSH in as root using authorized SSH Keys:

```
ssh -i /path/to/private.key root@SERVER_IP_HERE
================================================
    Rescue environment based on Alpine Linux 3.x
Use "apk" package manager for additional utilities.
See docs at http://wiki.alpinelinux.org
localhost:~#
```

Mount Original Root Partition

Next, you'll need to mount the original OS's root partition.

For t1.small servers, the root partition is located in /dev/sda3.

    mount -t ext4 /dev/sda3 /mnt

For c1.small, m1.xlarge, and c1.xlarge servers, the root partition is located in /dev/mdxxx*

    mount -t ext4 /dev/mdxxx*/mnt

* replace xxx with the actual number of the md device

Once you have access to the root partition you can repair it.

    localhost:/mnt#ls
    bin   dev   home   lib64   media opt   root
    sbin   sys   usrboot etc   lib   lost+found mnt
    proc   run   srv   tmp   var

In order to get back to the Original OS, we can simply reboot the server.

Two Common Use Cases / Situations

#1 - Reset root password
In cases when you can normally SSH into your server and can't use SOS because you have forgotten or haven't saved the root password, you can reset it through Rescue.

Option 1:

  After mounting the root filesystem to /mnt, we can use chroot to load the mounted filesystem and directly use the sudo passwd command to modify the existing root password.

    # chroot /mnt /bin/bash

    # sudo passwd

Option 2:

We can also simply modify the shadow file containing the code for the root password, which

will result in the root account being password-less.

    vi /mnt/etc/shadow

On the first line, there is a `root:$X$SK5xfLB1ZW:0:0` ...

In order to delete the password, we have to delete everything between the first and second semicolon. After that, save the file and reboot the server.

  Thus "*root:XSK5xfLB1ZW:0:0...*" gets converted to: "root::0:0..."

Keep in mind this will remove the root password completely, after a reboot you will have to use our SOS Console to access the machine using password authentication, and set a new password using:

    sudo passwd

#2 - Recover files

If the server cannot boot anymore into the original OS and you need to use Rescue to recover any important files.

So if I have a demo folder located at *root* and I need to recover those files, after mounting the root filesystem, I can save those on my local computer:

    scp -r root@Server_IP:/mnt/root/demo /User/Downloads

How do you run a FSCK on the drive(s)?

The rescue image is [Alpine Linux](). The default live image that is used is missing a package necessary to perform a 'FSCK' to proceed please install the following package:

    apk add e2fsprogs

After successful installation of aforementioned package, you can simply run the 'FSCK' by running, for example (drive name may very):

    fsck.ext4 -f -y /dev/md127

Tags

rescue