

# Storage & Backups (out-of-date)

## Setup ZFS Scrub (Data Integrity)

Automate [ZFS scrubbing](#) so the data integrity on disks is actively monitored, repaired if necessary, and I'm alerted if there is a problem with my disks.

### Create systemd Service/Timer ([source](#))

Create a simple systemd service template for scrubbing ZFS pools.

```
# /etc/systemd/system/zpool-scrub@.service
+ [Unit]
+ Description=Scrub ZFS Pool
+ Requires=zfs.target
+ After=zfs.target
+
+ [Service]
+ Type=oneshot
+ ExecStartPre=-/usr/sbin/zpool scrub -s %I
+ ExecStart=/usr/sbin/zpool scrub %I
```

Then create a systemd timer template for periodically running that service. I am running the scrub weekly, but semi-monthly or monthly would almost certainly be ok too.

```
# /etc/systemd/system/zpool-scrub@.timer
+ [Unit]
+ Description=Scrub ZFS pool weekly
+
+ [Timer]
+ OnCalendar=weekly
+ Persistent=true
+
```

```
+ [Install]
+ WantedBy=timers.target
```

## Enable ZFS Scrub

```
systemctl daemon-reload
systemctl enable --now zpool-scrub@rpool.timer
```

# Setup Sanoid/Syncoid (Data Backup)

Run [Sanoid](#) for automating snapshots and Syncoid for remote backups. Unfortunately this isn't available in repositories so you have to build it yourself. However the author makes it fairly simple.

## Install ([source](#))

```
apt-get install build-essential debhelper dpkg-buildpackage libcapture-tiny-perl libconfig-inifiles-perl pv lzop
mbuffer
sudo git clone https://github.com/jimsalterjrs/sanoid.git
cd sanoid
ln -s packages/debian .
dpkg-buildpackage -uc -us
apt install ../sanoid_*_all.deb
```

## Configure Sanoid

I want to take hourly snapshots of both of my ZFS pools because sometimes I am not as careful or thoughtful as I should be about what I am doing at any given moment.

```
# /etc/sanoid/sanoid.conf
+ [template_proxmox]
+     frequently = 0
+     hourly = 24
+     daily = 7
+     weekly = 4
+     monthly = 1
+     yearly = 0
+     autosnap = yes
+     autoprune = yes
+
```

```
+ [rpool]
+   use_template = template_proxmox
+   process_children_only = yes
+   recursive = yes
+
+ [rpool/ROOT]
+   use_template = rpool
+   process_children_only = yes
+   recursive = yes
+
+ [rpool/data]
+   use_template = template_proxmox
+   weekly = 1
+   monthly = 1
+   process_children_only = yes
+   recursive = yes
```

Maybe this is a sin, but I'd like my snapshots to be in local time so I don't have to do the (admittedly simple) conversion in my head.

```
# /usr/lib/systemd/system/sanoid.service
[Service]
- Environment=TZ=UTC
+ Environment=TZ=EST
```

## Configure Syncoid

I haven't decided where I want to replicate to yet so I haven't configured syncoid yet.

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Revision #8

Created 2 May 2020 21:19:10 by Dustin Sweigart

Updated 22 February 2021 18:20:05 by [dustin@swigg.net](mailto:dustin@swigg.net)