

# Take a picture, it'll last longer!





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work at



# We almost all use Git.

**We ♥ branches.**

# Sandbox our experiments

# Branch the database!

# How do we that?

# A few ideas...



```
% cd /usr/local/var
% mysql.server stop
% mv mysql mysql.master
% cp -Rp mysql.master mysql.my-branch
% ln -s mysql.my-branch mysql
% mysql.server start
% echo "Well, that worked..."
Well, that worked...
% █
```

**But my database  
weighs 100GB, so...**

**It takes forever to copy.**

**Oh, wait.**

**My SSD ran  
out of space.**

**Let's try again...**

```
% cd /usr/local/var/mysql
% mysql.server stop
% git init
% git add .
% git commit -m "master db"
% git checkout -b my-branch
% mysql.server start
% echo "Well, that worked too..."
Well, that worked too...
% █
```

**Still takes forever to  
add large files to Git.**



**Still using a lot of  
extra disk space.**

**Switching to a  
new branch is fast!**

**But I'm gonna have  
to commit changes.**

# Hey, wait! ZFS!

**Released by  
Sun in 2005**

# **Filesystem, volume manager & software RAID**

# **Copy-on-write transaction model (like REE)**

# Fast & cheap snapshotting & cloning features



**Kinda sounds like  
Git branches!**

**Not just for  
Solaris anymore!**

**Ports exist for  
OS X, Linux & BSD.**

```
% cd /usr/local/var
% zfs snapshot my_app/mysql@now
% zfs clone my_app/mysql@now \
>      my_app/mysql-my-branch
% ln -s /Volumes/my_app/mysql-my-branch\
>      /usr/local/var/mysql
% mysql.server start
% echo "Well, that ruled."
Well, that ruled.
% █
```

# Really, really fast.

# Used no disk space.

**But who wants to  
type that much?**

**Sounds like a job  
for git hooks!**



# post-checkout

```
12 #!/usr/bin/env ruby
11 MYSQL_DIR = "/usr/local/var/mysql"
10 SOURCE_ZFS = "my_app/mysql"
 9
 8 branch_checkout = ARGV[2] == "1"
 7 new_branch = `git branch | grep '*' | awk '{print $2}'`.chomp
 6
 5 if branch_checkout && new_branch !~ /\(no/
 4   system "mysql.server stop"
 3
 2   if new_branch == "master"
 1     new_zfs = SOURCE_ZFS
 0   else
 1     new_zfs = "#{SOURCE_ZFS}-#{new_branch}"
 2   end
 3
 4   unless system("zfs list | grep -q #{new_zfs}")
 5     puts "Creating #{new_zfs}"
 6     timestamp = Time.now.strftime("%Y%m%d%H%M")
 7
 8     system "zfs snapshot #{SOURCE_ZFS}@#{timestamp}"
 9     system "zfs clone #{SOURCE_ZFS}@#{timestamp} #{new_zfs}"
10   end
11
12   puts "Symlinking #{MYSQL_DIR} to /Volumes/#{new_zfs}"
13   File.unlink MYSQL_DIR
14   File.symlink "/Volumes/#{new_zfs}", MYSQL_DIR
15
16   system "mysql.server start"
17 end
```

hooks/post-checkout Line:13/30[43%]Col:3Buf:#1[101][0x65]

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# But wait, there's more!

# vagrant-zfs

*[github.com/psi/vagrant-zfs](https://github.com/psi/vagrant-zfs)*

# Questions?

*[github.com/psi/goruco2013](https://github.com/psi/goruco2013)*