

Consistent backups script

Imagine we have a MongoDB cluster consisting of several data nodes running on managed virtual machines in a cloud. We already have a script that creates snapshots of VM disks and takes a hostname as the only parameter:

```
$ make-vm-snapshot vm-hostname
```

The task is to create a wrapper script around that script to make a consistent (see <https://www.mongodb.com/docs/manual/reference/method/db.fsyncLock/> method) snapshot of one of the secondary nodes. The script will be called as follows:

```
$ yourscript  
"mongodb://admin:password@vm-hostname1,vm-hostname2,vm-hostname3/admin?otherParams"
```

Expected deliverable: a script in python, bash or similar

Design database setup for microservices

We have two identical environments — test and production — with many services deployed onto k8s clusters. These services need an isolated Postgres database. Developers should have read-write access to all services in test environment and read-only in production.

The task is to outline a proposal (as a list of key action items and/or a dozen of sentences) on how that could be implemented. We might discuss it deeper in the next interview round.

Some points to consider:

- Managed or on-premise
- Single server or a cluster
- Single server/cluster, server/cluster per environment or server/cluster per application
- How to manage and provision accounts for applications and people