

# Initialize And Finalize Scripts: How do I write information out to a hard drive during pre-provisioning?

*How do I write information out to a hard drive during pre-provisioning?*

With a finalize script you write to somewhere under `localdrive`, which is the root of the local filesystem.

With an initialize script, things are a bit trickier.

## Background

In the pre-provisioning, pre-init, early user space, initial root file system environment on the regular node, saving something to persistent storage is a bit roundabout. Storing it on the `tmpfs` is not a persistent option because the pivot process after the finalize script, before the init system runs, gets rid of those.

What we can do is store it temporarily to the `tmpfs` with the initialize script and then save the file to the `localdisk` with the finalize script. This can be done because the finalize script runs after the local disk is mounted.

## Example

For example, this `initializescript` dumps some environment variables and their values at the point when the `initializescript` runs:

```
#!/bin/bash
echo "HOSTNAME=$CMD_HOSTNAME" > /var/run/initialenv
echo "TAG=$CMD_TAG" >> /var/run/initialenv
echo "MAC=$CMD_MAC" >> /var/run/initialenv
```

while this `finalizescript` dumps the environment variables and their values at the point when the `finalizescript` runs:

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```
#!/bin/bash
echo "HOSTNAME=$CMD_HOSTNAME" > /localdisk/finalenv
echo "TAG=$CMD_TAG" >> /localdisk/finalenv
echo "MAC=$CMD_MAC" >> /localdisk/finalenv

cp /var/run/initialenv /localdisk/initialenv
```

Data stored earlier by an initialize script can be copied over in this way by a finalize script, to the local hard drive alongside the output of a finalize script when a node is rebooted. So you get the files `/initialenv` and `/finalenv` in the root directory (`/`) of the local drive. This is useful for comparison purposes, for example, when debugging issues that come up between the initialize and finalize script runs, because it can be read after the node is fully running.

## Watch out for these files getting overwritten during a node update

These files get rewritten during every reboot because that's what the finalize script does. However, they can also get wiped if a node update (cmgui button) or imageupdate (cmsh) is run to sync the node to the disk image for a running node. To stop the files getting wiped out, their paths can be added to the second `excludelistupdate` sublist.

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Author: Frank Furter

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