

# Initialize And Finalize Scripts: How do I use the finalize script to transfer certificates to the nodes?

*How do I use the finalize script to transfer certificates to the nodes?*

In many cases, it might be desired to use node-specific certificates for certain service, e.g.:

- Make the SSH certificates persist through full re-installation.
- Use different Kerberos key tables per node.

The node installer is already doing something similar when it copies the node's certificate from the NFS share `/cm/node-installer/certificates` of the head node, to each node.

To do that for any other type of certificate you will need to create a certificate store directory, e.g. `/cm/certificates` on the head node or NFS server and export it to the nodes:

```
$ mkdir /cm/certificates
$ cmlsh
[headnode]% device use headnode
[headnode->device[headnode]]% fsexports
[headnode->device[headnode]->fsexports]% add /cm/certificates
[headnode->device*[headnode*]->fsexports*[ /cm/certificates*]]% set hosts internalnet
[headnode->device*[headnode*]->fsexports*[ /cm/certificates*]]% set write no
[headnode->device*[headnode*]->fsexports*[ /cm/certificates*]]% commit
[headnode->device[headnode]->fsexports[ /cm/certificates]]%
```

You will need to place the node-specific files in a sub-directory under that certificate store directory. The subdirectory is given the name of the node.

Eg:

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- For node001 create /cm/certificates/node001 and place the certificates within the node001 directory
- For node002, create /cm/certificates/node002 and place the certificates within the node002 directory.

and so on.

After that you will need to modify the finalize script for the node's category:

```
$ cmsh
[headnode]% category use default
[headnode->category[default]]% set finalizescript
(A text editor session will start)
[headnode->category[default]]% commit
```

The finalize script could be:

```
#!/bin/bash

mkdir /tmp/certificates
mount master:/cm/certificates /tmp/certificates
cp -an /tmp/certificates/${CMD_HOSTNAME}/* /localdisk/etc/ssh
umount /tmp/certificates
rm -rf /tmp/certificates
```

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