How do I change permissions in AFS?

Q: How do I change permissions in AFS?

Permissions in AFS are controlled on a per-directory basis, not a per-file basis. You cannot, therefore, make only one file in your home directory readable by your friend without exposing the entire top level of your home directory. For more detailed information, see How do permissions work in AFS?

> **Changing permissions recursively**
> This article will help you understand how to change permissions on a single directory in AFS. If you need to change permissions on a directory and all of its sub-directories, see How do I change AFS permissions for all subdirectories of a directory (recursively)?

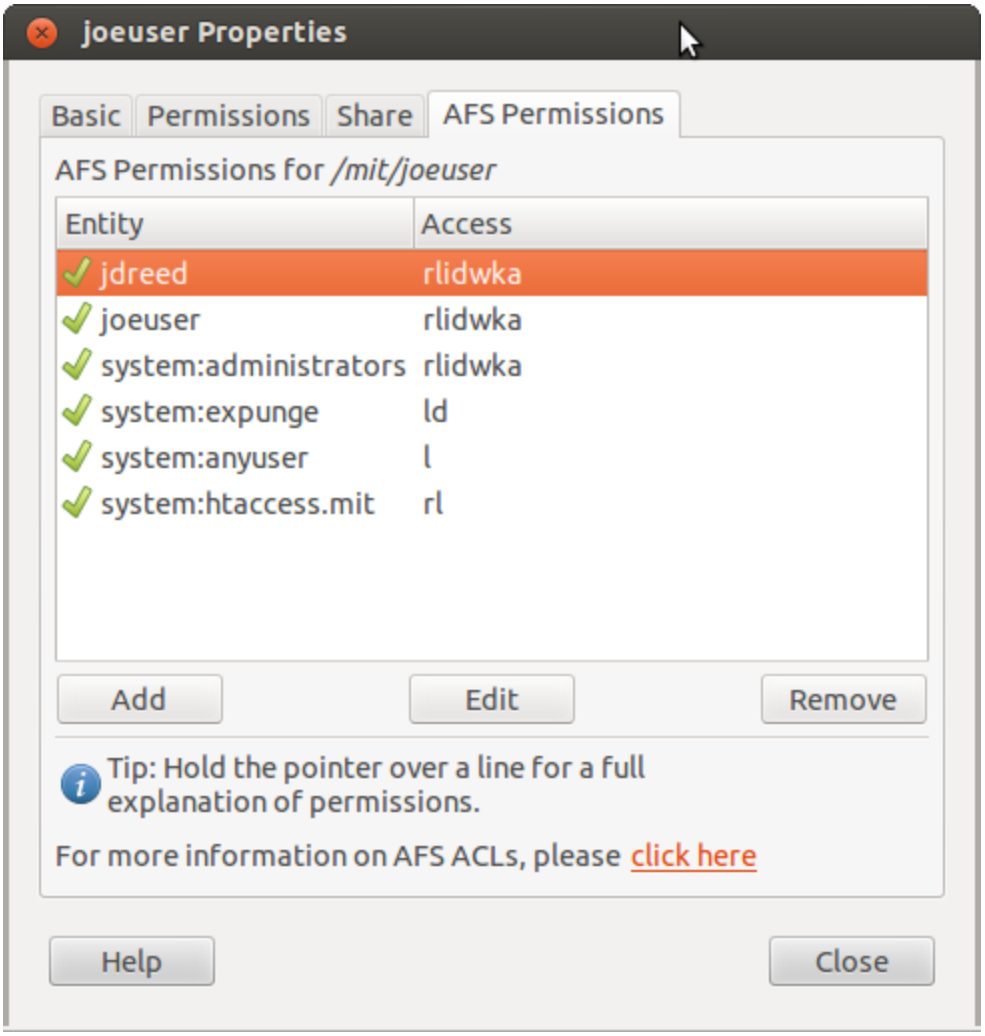
Methods:

Nautilus Folder Properties
The Command Line

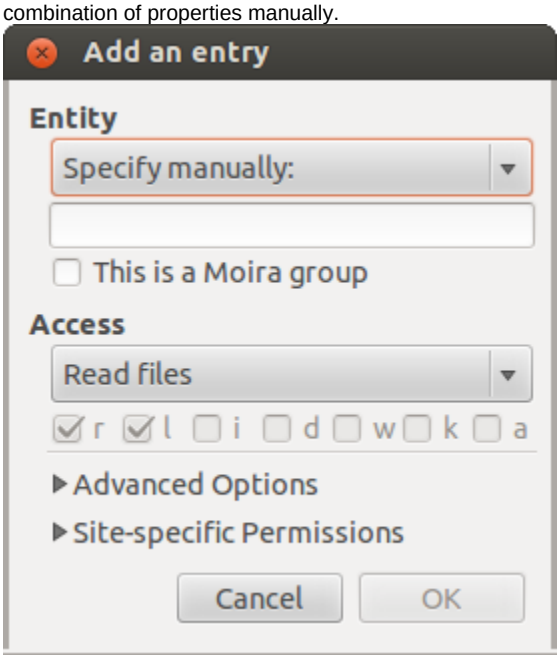
Nautilus Folder Properties

As of Spring 2013, you can now edit AFS permissions through the "Nautilus" file manager.

1. Simply right-click on any folder, and choose **Properties**. (If you're currently viewing the contents of a folder, you may right-click anywhere in the window itself, and choose **Properties**).
2. Click on the **AFS Permissions** tab.



3. Click the **Add** button to bring up the *Add an entry* dialog box.
4. You can enter a username in the text box, or enter a group name and check the **"This is a Moira group"** box. Or you can click the drop-down menu to choose several common entities. You can then choose from several predefined "Access" modes, or specify a combination of properties manually.



5. The **Edit** button functions like the **Add** button, but only allows you to change access rights. To change the entity associated with those rights, you will need to select them and click **Remove**, and then add the new entity.

 **Note:** Changing AFS permissions through the "Nautilus" file manager affects only the selected directory.

The Command Line

Changing permissions is accomplished through the following command:

```
joeuser@athena:~$ fs sa directory entity modes
```

Note: Be sure to fill in the correct information for *directory* and *entity* and *modes*.

- `directory` is any directory in AFS
- `entity` is an Athena username or a group (see below for group permissions)
- `modes` is one of `read`, `write`, `all`, or `none`

- The permissions are as follows:
  - **none** - No permission (i.e. remove previous permissions)
  - **read** - Permission to read files
  - **write** - Permission to read and write files
  - **all** - Permission to read, write, and **change access** of files

- Groups must be specified in the form

  ```
  system:<name of group>
  ```

  For example, if the moira list happy-students@mit.edu exists and is an AFS group, you would specify that as:

  ```
  system:happy-students
  ```

  Note that there are two special groups:

  - `system:anyuser` - Any user, anywhere in the world. Including via the web. Use with care, as this could mean information in that directory gets indexed and cached on Google or other search engines. **NEVER assign "write" privileges to system:anyuser**, your directory will almost immediately get abused by spammers and you will likely lose data.
  - `system:authuser` - Anyone with an Athena account

Some examples:

- To set the current directory writable by joeuser:

  ```
  fs sa . joeuser write
  ```

- To set the "18.01" sub-directory of your home directory readable by the group "my-18.01-friends":

  ```
  fs sa \~/18.01 system:my-18.01-friends read
  ```

- To set the top level "happyfunclub" locker readable by MIT users only (assuming you administer that locker):

  ```
  fs sa /mit/happyfunclub system:authuser read
  ```

 **Note:** Changing AFS permissions on the command line using the `fs` command affects only the specified directory.