

# Environment Modules

Environment Modules (<http://modules.sourceforge.net>) are designed to manage custom package installations. Software in our department is all installed to a network filesystem mounted over NFS where each package available is installed to it's own directory. This allows us to manage a wide range of software across different Linux distributions without users having to deal with any configuration. We can include different versions of software, letting users choose which they want to use.

## Using Modules

On any Linux system in our department, you can run `module avail` from your shell to get a list of available software.

```
ktm5j@applecake ~ $ module avail

----- /sw/centos/Modules/modulefiles -----
altera_pro      modelsim_ae      php7              python3.6.2
cuda-toolkit-9.0 modelsim_ase      php7.1.10         qsys
emacs           nios2eds         python            quartus
matlab          php              python3
```

After deciding what software you want to use, load the package using

```
module load
```

. Now the software is ready to use.

```
ktm5j@applecake ~ $ module load python3
ktm5j@applecake ~ $ which python
/sw/centos/python/3.6.2/bin/python
```

After loading several modules in your session,

```
module list
```

will show what modules have been loaded.

```
ktm5j@applecake ~ $ module load matlab
ktm5j@applecake ~ $ module load php
ktm5j@applecake ~ $ module list
Currently Loaded Modulefiles:
  1) matlab    2) python3   3) php
```

