User environment

The Cheyenne HPC system uses a Linux operating system and, for scheduling jobs, Altair PBS Professional (PBS Pro). The system supports widely used shells on its login and compute nodes. Users also have several compiler choices. See Compiling code for those details.

Operating system: SUSE Linux.

Scheduler: See Submitting jobs with PBS for documentation about scheduling jobs to run on Cheyenne.

Shells: The default login shell for new Cheyenne users is **bash**. To change your default to **tcsh** or other available shell, use the Systems Accounting Manager (SAM). It may take several hours for a change to take effect. You can confirm which shell is set as your default by entering the following on your Cheyenne command line:

```
echo $SHELL
```

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Logging in

To log in to the Cheyenne system, start your terminal or Secure Shell client and run an **ssh** command as shown here:

```
ssh -X username@cheyenne.ucar.edu
```

Some users (particularly on Macs) need to use **-Y** instead of **-X** when calling SSH to enable X11 forwarding.

You can use this shorter command if your Cheyenne username is the same as your username on your local computer:

```
ssh -X cheyenne.ucar.edu
```

After running the ssh command, you will be asked to authenticate to finish logging in.

Environment modules

CISL provides an extensive set of **environment modules** to manage the Cheyenne system's environment variables, compilers, libraries, and other software. You can use some modules regardless of which compiler is loaded, while others are compiler-dependent.

See environment modules for information about essential commands and how to set up and save customized environments for your work.

Switching shells

Users who run Linux **bash**, **csh**, or **ksh** commands to switch from one shell to another in an interactive session sometimes encounter a "module not found" diagnostic message. To avoid this, execute the following after switching if your session will include explicit invocations of the module commands.

In a tcsh script:

```
source /etc/profile.d/modules.csh
```

In a bash script:

```
source /etc/profile.d/modules.sh
```