Conda is a versatile tool that serves as both a package manager and environment manager. Simplifying the process of configuring, managing, and deploying software packages and dependencies, making it an indispensable tool for researchers.

This enables us to easily and quickly create environments for research programs which may not be able to run on Hellgate’s native environment.

**Initializing Conda**

To initialize Conda on a user’s shell, we utilize LMOD to handle our configuration. Allowing us to simply use a few commands:

module load conda

conda init

To apply these changes, we will need to restart the shell, this can be done by logging back in to cluster or reloading the shell start script using:

source ~/.bashrc

Our command line prompt should now have (base) in front of it and look like:

(base) [<NetID>@login1 ~]$

**Conda Workflow**

The base Conda environment will not be writable and serves simply as a starting environment for users. To creating a new environment that we can configure we will run:

conda create -n example

Now that we have created an environment, we verify it exists by listing our environments:

conda env list

We should see there is an environment named example and can use the example environment by activating it:

conda activate example

While we are in the example environment, we can install the software we need. In this example we will install the 3.9 version of python which is different from the Hellgate Cluster’s (3.12.3):

conda install python=3.9

We can verify our python is version 3.9 by using:

python --version

To exit the environment and go back to the base environment, we can use:

conda deactivate example

If you no longer need an environment, you can remove it using:

conda env remove -n example