**EXPANSE packages environment setup**

(# create virtual environment and all the configurations)

module load GCCcore/11.2.0

module load Python/3.9.6

virtualenv ~/baobab\_python\_env (# create virtual environment baobab\_python\_env)

~/baobab\_python\_env/bin/pip install pyomo

~/baobab\_python\_env/bin/pip install pandas

~/baobab\_python\_env/bin/pip install numpy

~/baobab\_python\_env/bin/pip install networkx

~/baobab\_python\_env/bin/pip install matplotlib

~/baobab\_python\_env/bin/pip install seaborn

~/baobab\_python\_env/bin/pip install cartopy

~/baobab\_python\_env/bin/pip install geopandas

~/baobab\_python\_env/bin/pip install shapely

~/baobab\_python\_env/bin/pip install scipy

~/baobab\_python\_env/bin/pip install openpyxl

. ~/baobab\_python\_env/bin/activate

(# install more packages in existing virtual environment baobab\_python\_env)

module load GCCcore/11.2.0

module load Python/3.9.6

. ~/baobab\_python\_env/bin/activate

~/baobab\_python\_env/bin/pip install pyomo