

# Arkouda Memory Limit Checking



# Memory Limit Checking

## High Level

- We don't want the arkouda\_server to crash because someone sent an operation which caused a crash because we allocated too much memory
- tracking against physical memory on locale-0
- Command-line memory tracking control arguments
- overMemlimit()
- code in src/ServerConfig.chpl and scattered through the code mostly in fooMsg() procedures



# User Mistakes and Behavior

- sometimes we ask for too much memory by accident
- sometimes we want more than is available
- The arkouda\_server used to crash most of the time under this condition
- We want the arkouda\_server to be as crash resistant as we can make it



# Memory Tracking

- We track against a percentage of physical memory used
- Why not virtual memory?
- Several command-line options
  - `--memTrack=true`
  - `--perLocaleMemLimit=90`
  - `--trace=true`



# overMemLimit()

- code in src/ServerConfig.chpl
- called in various places in the server to check/predict if we are going to exceed the memory limit
- methodology still needs to be evolved
- also called every time we try to allocate a new symbol table entry



look at code