Zwembad

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CHAPTER

ONE

ZWEMBAD PACKAGE

1.1 Submodules

1.2 zwembad.pool module

class zwembad.pool.**ExitObject**
Bases: object

Object returned from the context manager to all non-master processes. Any attribute access on this object will raise a WorkerExitSuiteSignal so that the context is exited.

is_master()

is_worker()

workers_exit()

class zwembad.pool.**MPIPoolExecutor**(*master=0*, *comm=None*)
Bases: concurrent.futures._base.Executor

MPI based Executor. Will use all available MPI processes to execute submissions to the pool. The MPI process with rank 0 will continue while all other ranks halt and

property idling

is_master()

is_worker()

map(*fn*, **iterables*)
Submits jobs for as long as all iterables provide values and places the results in a list. The iterables are consumed greedily.

shutdown()
Close the pool and tell all workers to stop their work loop

property size

submit(*fn*, */*, **args*, ***kwargs*)
Submit a task to the MPIPool. fn(*args, **kwargs) will be called on an MPI process meaning that all data must be communicable over the MPI communicator, which by default uses pickle.

Parameters **fn** (*callable*) – Function to call on the worker MPI process.

workers_exit()

exception zwembad.pool.**PoolGuardError**
Bases: Exception

This error is raised if a user forgets to guard their pool context with a **:method:`~.pool.MPIPoolExecutor.workers_exit`** call.

exception zwembad.pool.**WorkerExitSuiteSignal**

Bases: Exception

This signal is raised when a worker needs to exit before executing the suite of a `with` statement that only the master should execute.

1.3 Module contents

Both the package and the docs are pretty minimalistic: You create an *pool.MPIPoolExecutor* and either *submit()* jobs to it or *map()* a series of jobs to a list.

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