# MPI/exMPI04

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# MPI Examples

- The extended examples in parallel/MPI demonstrate use of G4mpi library (also provided in examples) for parallelizing of Geant4 application

- exMPI01 - a simple application without scoring

- exMPI02 - an example of dosimetry in a water phantom with scoring dose distribution and producing ROOT file containing histograms/trees in each node using ROOT

  - Only sequential mode

- exMPI03 - is the same as exMPI02, but using Geant4 analysis for histogramming,

  - Merging histograms with both MT and MPI

# exMPI04

- The same as exMPI03 with added ntuple.

- It uses Geant4 analysis for histogramming and ntuples.

- It shows how to merge, using Geant4 analysis, ntuples via MPI in sequential mode, so that the entire statistics is accumulated in a single output file.

- If MT is enabled, the ntuples are merged from threads to files per ranks.

- Combined MT + MPI merging is not (yet) supported.

- Merging ntuples is actually supported only with the ROOT output format.

- Ntuple merging with MPI will be presented in more details in the analysis presentation in Plenary 6