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# MPI with gLite (OBSOLETE --> please see INFNs mpi.tar.gz!)

## mpi-glite.jdl

```
JobType = "MPICH";
NodeNumber = 6;
Executable = "cpi";
StdOutput = "cpi.out";
StdError = "cpi.err";
InputSandbox = {"cpi"};
OutputSandbox = {"cpi.err", "cpi.out"};
Requirements = (other.GlueCEInfoTotalCPUs >= NodeNumber) &&
Member("MPICH", other.GlueHostApplicationSoftwareRunTimeEnvironment);
```

# MPI with LCG (pre-gLite)

## mpi.jdl

```
Type = "Job";
  JobType = "MPICH";
  Executable = "MPItest.sh";
  NodeNumber = 5;
  Arguments = "cpi 5";
  StdOutput = "test.out"; StdError = "test.err";
  InputSandbox = {"MPItest.sh", "cpi"};
  OutputSandbox = {"test.err", "test.out", "executable.out"};
  Requirements = other.GlueCEInfoLRMSType == "PBS" || other.GlueCEInfoLRMSType == "LSF";
```

## MPItest.sh

```
for i in `cat $HOST_NODEFILE` ; do
  echo "Mirroring via SSH to $i"
  # creates the working directories on all the nodes allocated for parallel execution.
  ssh $i mkdir -p `pwd`
  # copies the needed files on all the nodes allocated for parallel execution.
  /usr/bin/scp -rp ./ * $i:`pwd`
  # checks that all files are present on all the nodes allocated for parallel execution.
  ssh $i ls `pwd`
done

# execute the parallel job with mpirun.
echo "Executing $EXE"
chmod 755 $EXE
mpirun -np $CPU_NEEDED -machinefile $HOST_NODEFILE `pwd`/$EXE > executable.out''
```

-- RichardDeJong - 14 Jun 2006

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This topic: LCG > ExampleMPIJobJdlAndShellscript

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