

“Load Sharing Facility (LSF) on HPCMP Systems” Video Job Aid

Key References Referred to in this Video	
Referenced sources in this video:	<p>Scout LSF Guide https://centers.hpc.mil/systems/unclassified.html#SCOUT</p> <p>IBM Knowledge Center https://www.ibm.com/support/knowledgecenter/SSWRJV_10.1.0/lsf_welcome/lsf_welcome.html</p>
Sample Script used in presentation:	<pre>#!/bin/bash ##Specify your shell ## Required LSF Directives ----- ----- #BSUB -P Project_ID #BSUB -q standard #BSUB -n 80 #BSUB -x #BSUB -W 12:00 ## Optional LSF Directives ----- ----- ## %J is the variable for the Job ID #BSUB -o ./code.%J_hw.out #BSUB -e ./code.%J_hw.err ## Execution Block ----- ----- # Environment Setup # cd to your scratch directory cd \${WORKDIR} # create a job-specific subdirectory based on JOBID and cd to it JOBID=`echo \${LSB_JOBID}` mkdir -p \${JOBID} cd \${JOBID} ## Launching ----- ----- # copy executable from \$HOME and submit it cp \${HOME}/mpicode.x . # The following line provides an example of setting up and running # an MPI parallel code built with the default compiler and default MPI. mpiexec -n 320 ./mpicode.x > out.dat ## Clean up ----- ----- # Remove temporary files rm *.o *.temp</pre>
Node Configuration Chart/Queue Descriptions and Limits for SCOUT:	https://centers.hpc.mil/systems/unclassified.html#SCOUT
Sample MPI Script:	<pre>#!/bin/ksh ## Required Directives ----- ----- #BSUB -n 320 #BSUB -gpu "num=2:mode=exclusive" #BSUB -W 20:00 #BSUB -q standard</pre>



	<pre>#BSUB -P Project_ID ## Optional Directives ----- #BSUB -J testjob #BSUB -oe #BSUB -B my_email@mail.mil ## Execution Block ----- # Environmental Setup . /usr/share/Modules/init/ksh # cd to your scratch directory cd \${WORKDIR} # create a job-specific subdirectory based on JOBID and cd to it JOBID=`echo \${LSB_JOBID}` mkdir -p \${JOBID} cd \${JOBID} # copy data from \$HOME cp \${HOME}/my_data_dir/*.dat . # copy the executable from \$HOME cp \${HOME}/my_prog.exe . ## Launching ----- # for spectrumpi, your launch command is as follows: module unload mpi/openmpi module load mpi/spectrum/10.4 mpiexec ./my_prog.exe > my_prog.out # for MPI, your launch command can also be: mpiexec -n 320 ./my_prog.exe > my_prog.out ## Clean up ----- - # archive your results # Using the "here document" syntax, create a job script # for archiving your data. cd \${WORKDIR} rm -f archive_job cat >archive_job <<END #!/bin/bash #BSUB -W 12:00 #BSUB -q transfer #BSUB -P Project_ID #BSUB -oe #BSUB -S /bin/bash cd \${WORKDIR} # tar local directory \$JOBID into \${JOBID}.tar and put the tar file # in remote directory \${ARCHIVE_HOME}/myprogdir: archive put -C myprogdir -t \${JOBID}.tar \$JOBID echo "ERROR: Archive of \${JOBID}.tar to \${ARCHIVE_HOME}/myprogdir failed...." archive ls myprogdir/\${JOBID} # Remove scratch directory from the file system. cd \${WORKDIR} rm -rf \${JOBID} END # Submit the archive job script. bsub < archive_job</pre>
HPC Help Desk	<p>Phone: 1-877-222-2039 or 937-255-0679 (0800 – 2000 Eastern Time, M – F)</p> <p>Email: help@helpdesk.hpc.mil</p> <p>Web Portal: https://helpdesk.hpc.mil</p>