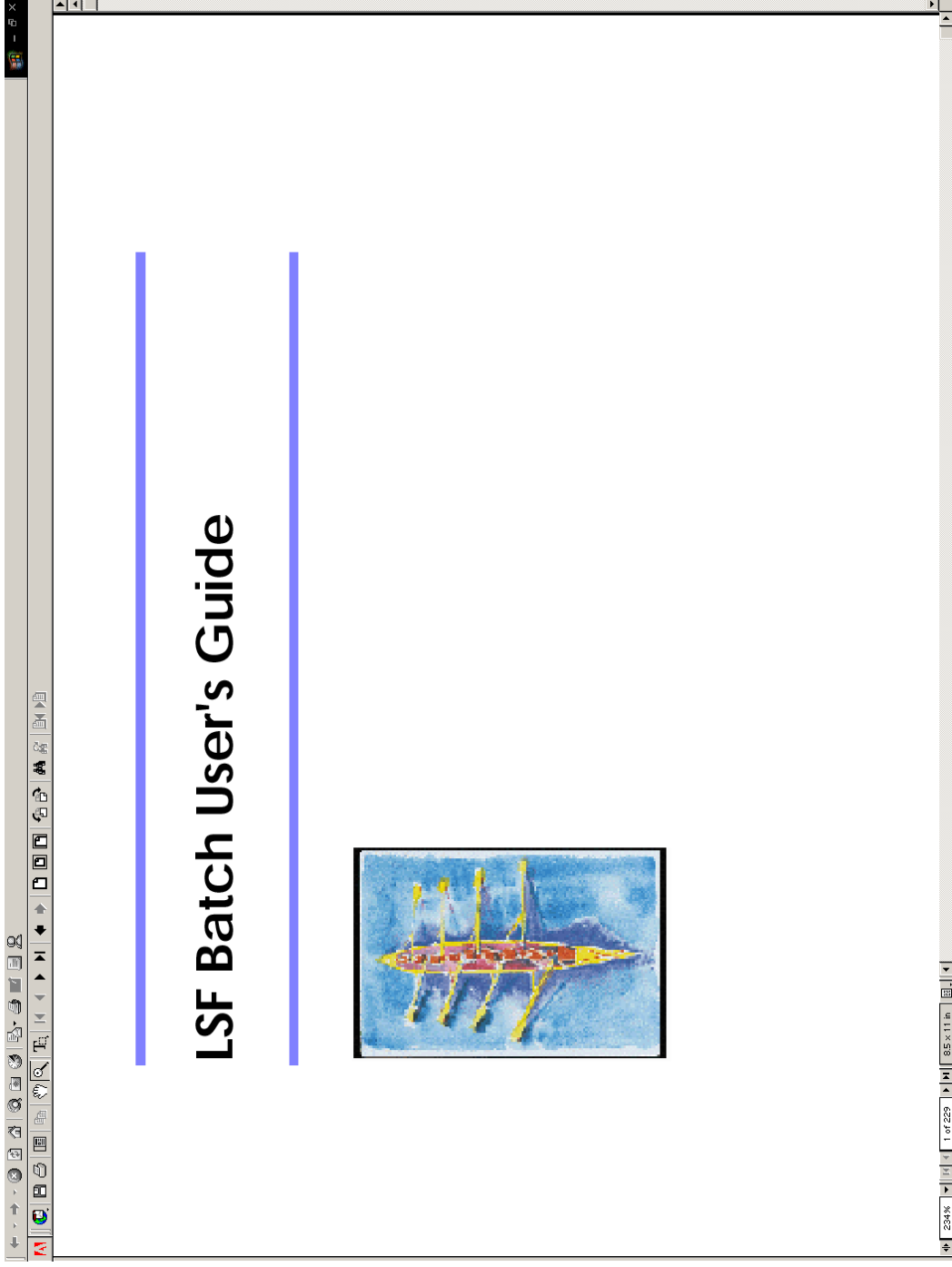


# LSF Batch



[http://www.rhic.bnl.gov/RCF/Facilities/LSF/users\\_guide.pdf](http://www.rhic.bnl.gov/RCF/Facilities/LSF/users_guide.pdf)

# bqueues command

```
xterm
bmig      bstatus      lsfsetup      lsreconfig    qrestart
bmod      bstop          lsfshutdown  lsrtasks      qrun
bmodify   bsub           lsfstartup   lsrun         qsa
rcas6010 ~/flow> xlsbatch

[1] + 12490 Suspended
rcas6010 ~/flow> bg
[1] xlsbatch &
rcas6010 ~/flow> bqueues
QUEUE_NAME      PRIO STATUS
at_cas_high     50  Open:Active
priority        43  Closed:Active
owners          43  Closed:Active
night           40  Closed:Inact
short           35  Closed:Active
license         33  Closed:Active
at_cas          30  Open:Active
phobos_cas     30  Open:Active
phenix_cas     30  Open:Active
brahms_cas     30  Open:Active
star_cas       30  Open:Active
normal         30  Closed:Active
idle           20  Closed:Active
rcas6010 ~/flow>
```

	MAX	JL/U	JL/P	JL/H	NJOBS	PEND	RUN	SUSP
lsreconfig	-	-	-	-	0	0	0	0
lsrtasks	-	-	-	-	0	0	0	0
lsrun	-	6	-	-	0	0	0	0
qrestart	-	-	-	-	0	0	0	0
qrun	-	-	-	-	0	0	0	0
qsa	-	-	-	-	0	0	0	0
xlsbatch	-	-	-	-	0	0	0	0

# bqueues command PDSF

```
xterm
/afs/rhpc/star/group/group_env.csh: Input/output error.
pdsf1x03 ~> bqueues
QUEUE_NAME      PRIO STATUS      MAX JL/U JL/P JL/H NJOBS  PEND  RUN  SUSP
short_su        30  Open:Active  -   2  -   1  3  3  0  0
short           30  Open:Active  -   -  -   2  0  0  0  0
normal_su       10  Open:Active  -   5  -   3  0  0  0  0
long            10  Open:Active  -   -  -   2  2  2  2  0
medium          10  Open:Active  -   -  -   2  6  6  6  0
pdsf1x03 ~>
```

# xlsbatch command

The screenshot shows the LSF Batch - Console window. The main area displays a table of job details with columns for Job\_Id, User, Stat, Queue, From\_Host, Exec\_Host, Sub\_Time, and Job\_Name. The Job\_Name column contains Perl commands for selecting data from a table named 'mix\_prdf\_select'.

Job_Id	User	Stat	Queue	From_Host	Exec_Host	Sub_Time	Job_Name
29275	ojha	RUN	phenix_cas	rcas2019.rcf.bnl.gov	rcas2004.rcf.bnl.gov	Mar 23 17:17:49 2000	#chmod 444 core;perl mix_prdf_select
29276	ojha	RUN	phenix_cas	rcas2019.rcf.bnl.gov	rcas2017.rcf.bnl.gov	Mar 23 17:18:50 2000	#chmod 444 core;perl mix_prdf_select
29277	ojha	RUN	phenix_cas	rcas2019.rcf.bnl.gov	rcas2002.rcf.bnl.gov	Mar 23 17:19:51 2000	#chmod 444 core;perl mix_prdf_select
29278	ojha	RUN	phenix_cas	rcas2019.rcf.bnl.gov	rcas2008.rcf.bnl.gov	Mar 23 17:20:51 2000	#chmod 444 core;perl mix_prdf_select
29281	snelling	RUN	star_cas	rcas6010.rcf.bnl.gov	rcas6014.rcf.bnl.gov	Mar 23 17:42:06 2000	doevents_rcf.csh
29283	snelling	RUN	star_cas	rcas6010.rcf.bnl.gov	rcas6007.rcf.bnl.gov	Mar 23 17:45:02 2000	doevents_rcf.csh
4929	starreco	ZOMBI	normal	rcas12.s30.bnl.local	lost_and_found	Nov 1 11:56:26 1998	eid10_76
4933	starreco	ZOMBI	normal	rcas12.s30.bnl.local	lost_and_found	Nov 1 11:56:28 1998	esol_6_76
4930	starreco	ZOMBI	normal	rcas12.s30.bnl.local	lost_and_found	Nov 1 11:56:27 1998	esol_6_1
4932	starreco	ZOMBI	normal	rcas12.s30.bnl.local	lost_and_found	Nov 1 11:56:28 1998	esol_6_51
29268	snelling	DONE	star_cas	rcas6010.rcf.bnl.gov	rcas6007.rcf.bnl.gov	Mar 23 16:43:28 2000	doevents_rcf.csh
29248	posk	DONE	star_cas	rcas6003.rcf.bnl.gov	rcas6010.rcf.bnl.gov	Mar 23 14:17:26 2000	Flow15

Below the table is a configuration panel with several dropdown menus and buttons:

- at\_cas: dropdown menu with arrow pointing right.
- at\_cas\_high: dropdown menu with arrow pointing right.
- brahms\_cas: dropdown menu with arrow pointing right.
- phenix\_cas: dropdown menu with arrow pointing right.
- phobos\_cas: dropdown menu with arrow pointing right.
- priority: dropdown menu with arrow pointing right.
- license: dropdown menu with arrow pointing right.
- night: dropdown menu with arrow pointing right.
- short: dropdown menu with arrow pointing right.
- star\_cas: dropdown menu with arrow pointing right.

At the bottom right, there is a status bar that says "Updating done." and "Updated 17:45:22".

# Simple script RCF

```
bsub -q star_cas
doFlowEvents.csh (listed below)

#!/bin/csh

#BSUB -J doFlowEvents
#BSUB -o doFlowEvents%J.log
#BSUB -e doFlowEvents%J.error
#BSUB -N
#BSUB -u RJSnellings@lbl.gov
#BSUB -G rhstar

set work_dir="/star/rcf/scratch/snelling/"
if (! -d $work_dir) then
  mkdir -p $work_dir
endif
cd $work_dir

set rundir='date +%y%m%d%H%m%s'
mkdir $rundir
cd $rundir

STAR_LEVELS > log.txt
root4star -b << EOF >>& log.txt
.which doFlowEvents.C
.x doFlowEvents.C(20)
.q
EOF
exit 0
```

# HPSS storage script

```
set xfers=0
set tries=0
while ($tries < 100)
##-- ftp data to hpss
ftp -i -v hpss.nersc.gov << EOF2 >& ftp$infile.log
bin
prompt
cd star/bfc/$detector_conf/$phys/$tpc_sim
pwd
put log$infile.txt
put starbfc$infile.log
mput *.xdf
mput *.root
dir
bye
EOF2

##-- check if data is transferred
set xfers=`grep -c -i '226 Transfer complete.'
ftp$infile.log`
if ($xfers == 0) then
  @ tries++
  echo 'ftp error, number of tries is:' $tries >>
  log$infile.txt
  sleep 600
else
  set tries=1000
endif
end

##-- go to top dir and remove files
rm -rf $work_dir/$rundir

exit 0
```

# Links and references PDSF

- [pdsf.nersc.gov](http://pdsf.nersc.gov)

## PDSF web pages

The screenshot shows a web browser window displaying the PDSF website. The browser's address bar shows the URL <http://pdsf.nersc.gov>. The website header includes the logo for the National Energy Research Scientific Computing Center (NERSC) and the title "Parallel Distributed Systems Facility (PDSF)". A navigation menu lists various links such as Home, Help, Search, Research, Hardware, Software, What's New, Meetings, Schedule, Calendar, About us, Staff, Talks, Starting, New Users, and Shells/files. The main content area is titled "Batch Queuing on PDSF" and contains text explaining the LSF (Load Sharing Facility) system and its configuration. A "Contents" section lists four items: 1) LSF Configurations, 2) LSF Status and Informational Commands, 3) LSF Queuing commands, and 4) LSF Tutorial. Below this, there is a section for "LSF Configurations" which lists several groups and their maximum number of jobs that can be run per group. The footer of the page includes a copyright notice for 1997-1999 Lawrence Berkeley Laboratory and a link to the legal terms.

**NATIONAL ENERGY RESEARCH SCIENTIFIC COMPUTING CENTER**  
**Parallel Distributed Systems Facility (PDSF)**

Home | Help | Search | Research | Software | Hardware | What's New | About | Starting

### Batch Queuing on PDSF

The Load Sharing Facility (LSF, v3.2 batch queuing system is currently being tested on the PDSF cluster. We are currently testing the LSF Base and LSF batch products. LSF base provides simple load sharing across many types of hosts. LSF Batch is a batch job scheduling system which ensures optimal resource sharing.

The configuration of LSF will be dynamic over the next few weeks as the pdsf-staff evaluates the capabilities and limitations of the system. Please check out the following information on the implementation and use of LSF on the PDSF cluster.

#### Contents

- 1) LSF Configurations
- 2) LSF Status and Informational Commands
- 3) LSF Queuing commands
- 4) LSF Tutorial

#### LSF Configurations

Since LSF is currently only running on the PDSF cluster the following groups have the following shares (a share can be considered a percentage of use):

- rstar; 11
- gc5; 11
- e895; 3
- atlas; 3
- babar; 3

Currently the maximum number of jobs that can be run per group is:

- rstar; 16
- gc5; 16
- e895; 6
- atlas; 6
- babar; 6

The following queues are available:

- normal\_lr (default queue). For all linux jobs
- normal\_ep. For all sun jobs
- short. For jobs that fit in one or a few machines

Questions or comments? [pdsf-webmaster@lbl.gov](mailto:pdsf-webmaster@lbl.gov)  
Copyright 1997-1999 Lawrence Berkeley Laboratory, 1 Cyclotron Rd., Berkeley, CA 94720 USA.  
All rights reserved. Legal Terms

# Links and references BNL

- [RCF batch](#)  
RCF web  
tutorial

The screenshot shows a Microsoft Internet Explorer browser window. The address bar contains the URL <http://www.rhc.bnl.gov/RCF/Facilities/LSF/LSF.html>. The page title is "RHC Computing FeBST". The main content of the page is as follows:

The RCF has installed LSF (version 3.1) on the [Central Analysis Server \(CAS\) Farm](#) for use in controlling analysis jobs.

This distributed batch queuing system implements sophisticated job scheduling and policy-driven resource allocation control, to ensure optimal performance. It can tolerate failure of any host or group of hosts, it provides job resubmission, checkpointing (depending on OS and user application), automatic migration and it can manage shared resources as well as local resources. It can also make use of specific hosts based on a time schedule or on the current load level. As an alternative to the first-come, first-served scheduling, the system can implement *fairshare scheduling*, guaranteeing the access to resources for users or groups of users. The system supports pre and post execution commands. For more information about LSF BATCH (part of the LSF Suite) check the [Platform Computing](#) site.

### Set up

To setup the environment append `csinc.lsf` to your `.cshrc` file or `profile.lsf` to `.profile`. Login to one of the machines and try it. Keep in mind that the workers are Linux machines, so send the appropriate version of code.

**Important:** When processing a job the system will provide a host of same type to execute it. If this is not your desire, you must require explicitly from the system the type of host you need. Use the option `-R "resource"`, where `resource` can be either `linux` or `solaris`, to precise your requirement, in the `bsub` command.

### Documentation

Manuals are available on-line in PDF format: "User's Guide", "User's Quick Reference", or PostScript format: "User's Guide", "User's Quick Reference". The University of Colorado at Boulder has an HTML version of several manuals for LSF version 3.0. The entire set of manuals for our latest version are available at [Platform Computing](#) site.

---

[Back to the RCF Home Page](#)

*Roman Popescu*  
Last modified: Sun Feb 7 16:54:05 EST 1999

Done



# Perl and Peter Jacobs

```
starsu00 ~> more ~/jacobs/hijing/extra/batch_submit.run_hijing.pl
#!/usr/bin/perl -w

#BSUB -J test_hijing
#BSUB -G rhstar
#BSUB -N
#BSUB -u PMJacobs@lbl.gov

$program = "run_hijing.pl";
$params = "test_hijing.dat";

system("$program $params");
```