

PBS Application Services 13.2

PAS Commands User Guide



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Altair® PBS Works™ 13.2

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Technical Support

Location	Telephone	e-mail
North America	+1 248 614 2425	pbssupport@altair.com
China	+86 (0)21 6117 1666	es@altair.com.cn
France	+33 (0)1 4133 0992	francesupport@altair.com
Germany	+49 (0)7031 6208 22	hwsupport@altair.de
India	+91 80 66 29 4500	pbs-support@india.altair.com
Italy	+39 800 905595	support@altairengineering.it
Japan	+81 3 5396 2881	pbs@altairjp.co.jp
Korea	+82 70 4050 9200	support@altair.co.kr
Scandinavia	+46 (0) 46 460 2828	support@altair.se
UK	+44 (0)1926 468 600	pbssupport@uk.altair.com

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About this Guide

This document provides information about using PAS Commands a command line interface for job submission and monitoring.

This chapter contains the following topics:

- [Audience](#)
- [Related Documentation](#)
- [Document Conventions](#)
- [Acronyms](#)

Audience

This document is intended for users who need to:

- Submit a job to a PBS Professional complex
- Monitor their jobs
- Upload and download job files

Related Documentation

The other PAS related documents are as follows:

- [PAS Administrator's Guide](#)
- [PAS Programming Guide](#)
- [Diving Into Application Definitions](#)

Documentation can be found at the following URL:

<http://www.pbsworks.com/SupportGT.aspx?d=PBS-Professional,-Documentation>

Document Conventions

The following typographical conventions are used in this document:

File Pathname

Names of a file or a directory are displayed as follows:

```
/home/user1/submission_dir/PBSJobApp/174.hwesuse113.oe
```

Keyboard Inputs

Keyboard inputs, for example commands that are entered are displayed as follows:

```
./etc/init.d/pbsworks-pbsa start
```

Code Example and File Contents

Examples of programming code or the contents of a file are displayed as follows:

```
if userInputs['ACCOUNT']:  
    job.attr_accounting_label =userInputs['ACCOUNT']
```

Parameters, Environment Variables, XML tags

Environment variables, XML tags, parameters, and references to a snippet of a file are displayed as follows:

Set the value of the `MaxBackupIndex` parameter to the maximum number of log files to keep.

UI Controls

User Interface controls such as command buttons, tab names, menu options, application fields, or items in a list are displayed as follows:

Click the **Settings** button.

Document References

References to an external document are displayed as follows:

For more information see the *PBS Works 13.1 Administrator's Guide*.

Messages

Log file messages or messages returned from a command are displayed as follows:

```
Please make sure PBSA engine and Monetdb Server are not running.
```

Notes

Information or notes that supplement or emphasize important points are displayed as follows:



The default TOC type for a result file is set in the `plugin_def.xml` file

Tips

Tips that makes your work easier are displayed as follows:



If you get an error during registration of the HyperView Player, right click on the shortcut and choose the **Run as Administrator** option from the context menu.

Cautions

Cautions draw special attention to any action that could cause damage to the product or cause the loss of data. For example:



Do not turn the monitor off by unplugging it from the computer or wall socket. Severe damage to the monitor may result. Turn the monitor off before unplugging it.

Acronyms

The following acronyms are used in this guide.

Table 1. Acronyms

Acronym	Description
API	Application Programming Interface
HPC	High Performance Computing
PAS	PBS Application Services
PBS	Portable Batch System

1. Introduction to PAS Commands

The PBS Application Services™ (PAS) Commands allow users to access the power of PBS Professional from the command-line without using a graphical user interface, while leveraging the capabilities of PBS Application Services and application definitions.

PAS Commands are available with PBS Application Services 11.1 and later releases. Contact your system administrator to report errors, problems, or unavailability of the PAS Commands.

A variety of commands are available to assist user's with job submission and monitoring activities, as well as file operations. Additionally, PBS Application Services server and administrative commands are available. Please see the following chapters for a description of each command, usage information, examples, and associated error messages.

- [Administering PAS on page 3](#)
- [Submitting and Monitoring Jobs on page 15](#)
- [Maintaining Files and Directories on page 33](#)

What's New

There have been no updates for PAS 13.2.

2. Administering PAS

Six commands are available to help with the following administrative tasks. All commands will connect to the default PAS server that was specified during the PAS Commands installation. However, in cases where you do not want to connect to the default PAS server, most commands have an option for specifying a non-default PAS server.

- [Determining if the PAS Server is Up and Running](#)
- [Getting PAS Server Information](#)
- [Displaying PAS Version & Build Information](#)
- [Determining if the User is an Administrator](#)
- [Getting the Staging Area Root Directory](#)
- [Setting the User's Password](#)

Determining if the PAS Server is Up and Running

Use the `pas-ping` command to check if a PAS server is up or down. This command will return a message indicating the status of the PAS server:

```
PAS server at <machine name> is up/down.
```

Usage

```
pas-ping [options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Ping the `PAS_SERVER`. If this option is not specified, then the default PAS server will be pinged.

`-v`

Obtain detailed (verbose) PAS server information. If this option is not specified, then only the status of the PAS server will be displayed.

Command Examples

Ping the default PAS server:

```
pas-ping
```

Ping the default PAS server using the verbose option to obtain complete server information:

```
pas-ping -v
```

Ping a non-default PAS server:

```
pas-ping -s 192.168.4.123
```

Command Output Example

```
pas-ping
PAS server at <localhost> is up
```


Error Messages

The following table lists the error messages that the `pas-ping` command may return:

Table 1. Error messages for the `pas-ping` command

Error Message	Description
PAS Server is not running: PAS Server (server name)is down	The PAS server is currently down.
Environment varibale PAS_CONF_FILE not set	The environment variable PAS_CONF_FILE needs to be set to point to the PBS Application Services configuration file. Contact systems support.
Path does not exist : pathname	The path to the PAS Commands does not. Contact systems support.

Getting PAS Server Information

Use the `pas-getsrv` command to display the hostname and port number of the default PAS server.

Usage

```
pas-getsrv [options]
```

Options

`-h`

Get help information for the command.

Command Examples

Get information about the default PAS server:

```
pas-getsrv
```

Command Output Example

```
pas-getsrv
Server=localhost
Port=17443
```

Error Messages

The following table lists the error messages that the `pas-getsrv` command may return:

Table 2. Error messages for the `pas-getsrv` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Server <name or ip address> not found	PAS server not found.

Displaying PAS Version & Build Information

Use the `pas-ver` command to display PAS version and build information.

Usage

```
pas-ver -[options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Display version and build information for the `PAS_SERVER`. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Display the PAS version and build information for the default PAS server:

```
pas-ver
```

Display the PAS version and build information for a non-default PAS server:

```
pas-ver -s 192.168.4.123
```

Command Output Example

```
pas-ver
majorVersionNumber :: 12
minorVersionNumber :: 1
patchNumber :: 0
buildId :: 20140516
platform :: Linux-x86_64
arch :: amd64
```

Error Messages

The following table lists the error messages that the `pas-ver` command may return:

Table 3. Error messages for the `pas-ver` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Server <name or ip address> not found	PAS server not found.
ERROR: Error in get PAS version Connection error to PAS server: (111, 'Connection refused')	The PBS Application Services server is down.

Determining if the User is an Administrator

Use the `pas-admin` command to determine if the effective user has administrative privileges for a PAS server. The command will return true when the user is a PAS administrator and false when the user is not a PAS administrator.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-admin [options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Determine if the effective user has administrative privileges for the `PAS_SERVER`. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Determine if the effective user has administrative privileges for the default PAS server:

```
pas-admin
```

Determine if the effective user has administrative privileges for a non-default PAS server:

```
pas-admin -s 192.168.4.123
```

Command Output Example

```
pas-admin
true
```

Error Messages

The following table lists the error messages that the `pas-admin` command may return:

Table 4. Error messages for the `pas-admin` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Error in is admin PAS Server (server name) is down	The PBS Application Services server is down..
ERROR: FailedLoginException: Credentials Mismatch Please run pas-passwd command to set the password for pas-client user	The userid and password combination provided is invalid.

Getting the Staging Area Root Directory

Use the `pas-getsroot` command to return the root directory of the PAS staging area.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-getsroot [options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Returns the staging area root directory of the `PAS_SERVER`. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Get the staging area root directory of the default PAS server:

```
pas-getsroot
```

Get the staging area root directory of a non-default PAS Server:

```
pas-getsroot -s 192.168.4.123
```

Command Output Example

```
pas-getsroot  
/stage
```

Error Messages

The following table lists the error messages that the `pas-getroot` command may return:

Table 5. Error messages for the `pas-getroot` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Error in get stage root Connection error to PAS server: (111, 'Connection refused')	The PBS Application Services server is down.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.

Setting the User's Password

Use the `pas-passwd` command to set your PAS Commands password. Once this command is issued, you will be asked to enter a password, and then re-enter it for verification. Once the password is set, it will be used for all subsequent PAS Command requests.

Usage

```
pas-passwd [options]
```

Options

-h

Get help information for the command.

Command Examples

Set the user's password:

```
pas-passwd
```

Command Output Example

```
pas-passwd
Enter user's password:xxxxxxx
Retype password:xxxxxxx
Changed user root's PAS password on server <localhost>
```

Error Messages

The following table lists the error messages that the `pas-passwd` command may return:

Table 6. Error messages for the `pas-passwd` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.

3. Submitting and Monitoring Jobs

Seven commands are available for job submission, job monitoring, and obtaining job results. All commands will connect to the default PAS server that was specified during the PAS Commands installation. However, in cases where you do not want to connect to the default PAS server, there is a command option for specifying a non-default PAS server.

- [Getting a List of all Applications](#)
- [Getting a List of Application Parameters](#)
- [Submitting a Job](#)
- [Checking the Status of Jobs](#)
- [Getting a Summary of Job Information](#)
- [Downloading Job Results](#)
- [Deleting a Job](#)

A simple workflow for submitting a job is:

1. Get a list of the available applications on the PAS server using the `pas-getapps` command.
2. Once you have determined which application to run, get a list of application parameters using the `pas-getapp` command.
3. Upload the job input files to the PAS Server using the `pas-fup` command.
4. Submit a job to the PAS Server using the `pas-submit` command.
5. Check the status of your job using the `pas-stat` command.
6. Download the job result files using the `pas-getres` command.

Getting a List of all Applications

Use the `pas-getapps` command to return a list of all applications known to the PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-passwd` command
- issuing this command which will prompt you for a password

Usage

```
pas-getapps [options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Retrieve a list of all applications known to the `PAS_SERVER`. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Get a list of all application known to the default PAS server:

```
pas-getapps
```

Get a list of all applications known to a non-default PAS Server:

```
pas-getapps -s 192.168.4.123
```

Command Output Example

```
pas-getapps
ShellScript2
RADIOSS
Sleeper
JobArray
PBSJobApp
OptiStruct
BatchMesher
DirLister
MyApp
Signal Trap
ShellScript
```

Error Messages

The following table lists the error messages that the `pas-getapps` command may return:

Table 1. Error messages for the `pas-getapps` command

Error Message	Description
ERROR: Applications not registered: No applications registered on PAS server	No applications are currently registered for the PBS Application Services server.
ERROR: Error in get applications list Address-related error connecting to server: (-2, 'Name or service not known')	A connection problem occurred with the server specified by the option <code>-s <hostname></code>
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The <code>userid</code> and <code>password</code> combination provided is invalid.

Getting a List of Application Parameters

Use the `pas-getapp` command to return a list of all parameters available for the specified `APPNAME`. This command will also provide information on whether the application parameter is mandatory or optional. The output of this command can be redirected to a file.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-passwd` command
- issuing this command which will prompt you for a password

Usage

```
pas-getapp -a APPNAME [options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Retrieve application parameters from the `PAS_SERVER` for the specified `APPNAME`. If the option is not specified, then the default PAS server will be assumed.

Command Examples

Get the parameters available for the application "optistruct" on the default PAS server:

```
pas-getapp -a optistruct
```

Get the parameters available for the application "optistruct" on a non-default PAS Server:

```
pas-getapp -a optistruct -s 192.168.4.123
```

Get the parameters available for the application "optistruct" and redirect the output to a file called `/tmp/optistruct_params`:

```
pas-getapp -a optistruct > /tmp/optistruct_params
```

Command Output Example

```

pas-getapp -a PBSJobApp
ApplicationId=PBSJobApp
ApplicationName=PBSJobApp
JOB_NAME(true)(String)
NCPUS(true)(Int)(Min:1)(Value=1)
CHUNKS(false)(Int)(Min:1)(Value=1)
CHUNK_PLACEMENT(false)(StringEnumerated)(Value=free)[Options:pack,free,scatter]
MEMORY(true)(Int)(Min:10)(Value=10)
MEMORY_PLACEMENT(false)(StringEnumerated)(Value=true)[Options:true,false]
JOB_SCRIPT(true)(FileName)
JOB_ARGS(false)(String)
FILES(false)(FileNameMulti)
SUBMISSION_DIRECTORY(true)(DirectoryName)

```

Error Messages

The following table lists the error messages that the pas-getapp command may return:

Table 2. Error messages for the pas-getapp command

Error Message	Description
ERROR: Must specify an application using -a	This command requires that an application be specified using -a APPNAME.
ERROR: Application not registered: Application(appname) not found on PAS server	The application specified by -a APPNAME has not been registered with the PAS server.
ERROR: File IO error: app-input-<app_name>.xml	There is an IO error with the application input file associated with the application specified by -a APPNAME.
ERROR: Error in getting application parameter for application <Application name>	A parsing error occurred while reading the application input file associated with the application specified by -a APPNAME.
ERROR: FailedLoginException: Credentials Mismatch Please run pas-passwd command to set the password for pas-client user	The userid and password combination provided is invalid.

Submitting a Job



File name conventions for application arguments require the prefix "pbscp:", followed by the hostname and absolute path of the file. For example: pbscp://blrec166/c:/opti/.

Use the `pas-submit` command to submit a job. Upon successful submission of the job, this command will return the PBS Professional job identifier.

The `pas-submit` command accepts input file paths relative to the PAS Server location, therefore you must upload job input files to the PAS Server before submitting a job. Use the `pas-fup` command to upload any job input files to the PAS Server. For more information about uploading job files see [Uploading a File on page 37](#).

There are two ways to submit a job using this command:

1. The application parameters can be entered manually on the command line.
2. The application parameters can be stored in a file. Use the `pas-getapp` command to generate a list of the application parameters, and then edit this list to fill in the appropriate parameter values.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-submit [options]
```

Options

-f FILEPATH

Specify the path of the file that contains the application parameters. Use the `pas-getapp` command to generate this file.

-h

Get help information for the command.

-s PAS_SERVER

Submit a job to the `PAS_SERVER`. If the server is not specified, then the default PAS server will be assumed.

Command Examples

These examples assume that the job input files have already been uploaded to the PAS Server.

Submit a job to the PAS Server `blrec166` by entering all application parameters at the command line:

```
pas-submit ApplicationId=Optistruct ApplicationName=Optistruct JOB_NAME=My_JOB
ApplicationExtension=.fem MASTER=pbscp://blrec166/c:/bar.fem BILLING_ACCOUNT=Cust1
MEM=200 NCPU=2 SUBMISSION_DIRECTORY=pbscp://blrec166/c:/opti/
```

Submit a job by specifying the path to the file containing the application parameters:

```
pas-submit -f /tmp/parm_file
```

Submit a job to a non-default PAS Server:

```
pas-submit -f /tmp/parm_file -s 192.168.4.123
```

Submit a job to the PAS Server `hwesuse113-01` passing an application argument of datetime:

```
pas-submit ApplicationId=MyApp ApplicationName=MyApp JOB_NAME=MyApp_test
EXECUTION_TIME='2014-07-30;13:40:00'
SHELL_SCRIPT=pbscp://hwesuse113-01/home/user1/hello_world.sh
SUBMISSION_DIRECTORY=pbscp://hwesuse113-01/home/user1
```

Submit a job to the PAS Server `hwesuse113-01` passing an application argument of boolean:

```
pas-submit ApplicationId=MyApp ApplicationName=MyApp JOB_NAME=MyApp_test
LOGGING=true SHELL_SCRIPT=pbscp://hwesuse113-01/home/user1/hello_world.sh
SUBMISSION_DIRECTORY=pbscp://hwesuse113-01/home/user1
```

Command Output Example

```

pas-submit ApplicationId=PBSTestApp ApplicationName=PBSTestApp JOB_NAME=PBSTestApp_test
MEMORY=10 NCPUS=1 JOB_SCRIPT=pbscp://hwesuse113-01/tmp/hello_world.sh
SUBMISSION_DIRECTORY=pbscp://hwesuse113-01/tmp/PAS_output
Response from PAS server
149.hwesuse113-01

```

Error Messages

The following table lists the error messages that the `pas-submit` command may return:

Table 3. Error messages for the `pas-submit` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: File does not exist: <filename>	The parameter file denoted by <filename> does not exist.
ERROR: Permission Denied: <filename>	There is a permissions problem with the parameter file <filename>
ERROR: Unknown System Error while opening <filename>	Error opening parameter file denoted by <filename>.
ERROR: No input parameters specified for job submission	The job application parameters missing. You must enter application parameters to submit the job.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for pas-client user	The userid and password combination provided is invalid.

Checking the Status of Jobs

Use the `pas-stat` command to display the status of a job (similar to the PBS Professional command `qstat -f`). You can display the status of a particular job or the status of all jobs.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-passwd` command
- issuing this command which will prompt you for a password

Usage

```
pas-stat [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Get the status of `JOBID`. If this option is not specified, then the status of all jobs will be returned.

`-s PAS_SERVER`

Get the status of a job on the `PAS_SERVER`. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Check the status of a specific job on the default PAS server:

```
>pas-stat -j 248.blrec166
```

Check the status of all jobs on the default PAS server:

```
>pas-stat
```

Check the status of all jobs on a non-default PAS Server:

```
>pas-stat -s 192.168.4.90
```

Check the status of a specific job on a non-default PAS Server:

```
>pas-stat -j 248.blrec166 -s 192.168.4.90
```

Command Output Example

```
pas-stat -j 129.hwesuse113-01
Job Id: 129.hwesuse113-01
pbs_job_state : Q
pbs_server : hwesuse113-01
pbs_Account_Name : n/a
pbs_Job_Name : test1
pbs_Job_Owner : ebleicher@hwesuse113-01.prog.altair.com
pbs_Checkpoint : u
pbs_ctime : Wed Mar 12 13:51:37 2014
pbs_Error_Path : hwesuse113-01.prog.altair.com:/var/spool/pas/temp/test1.er
pbs_exec_host : n/a
pbs_exec_vnode : n/a
pbs_Hold_Types : n
pbs_Join_Path : n
pbs_Keep_Files : oe
pbs-Mail_Points : a
pbs_mtime : Wed Mar 12 13:51:38 2014
pbs_Output_Path : hwesuse113-01.prog.altair.com:/var/spool/pas/temp/test1.ou
pbs_Priority : 0
pbs_qtime : Wed Mar 12 13:51:38 2014
pbs_Rerunable : True
pbs_stime : n/a
pbs_session_id : 0
pbs_sandbox : private
pbs_jobdir : n/a
```

```
pbs_stagein : runtime@hwesuse113-01:/var/spool/pas/repository/applications/  
PBSJobApp/runtime,pbs_spawn@hwesuse113-01:/opt/altair/pas/13.2/pas/  
pbs_spawn,hello_world.sh@hwesuse113-01:/users/ebleicher/hello_world.sh  
pbs_stageout : *@hwesuse113-01:/stage/ebleicher/test1  
pbs_Variable_List :  
PAS_APPLICATION=PBSJobApp,PAS_CHUNKS=1,PAS_CLIENT_HOST=127.0.0.2,PYTHONPATH=/opt/  
pbs/default/bin/pbs_python,PAS_SUBMISSION_DIRECTORY=pbscp://hwesuse113-01/stage/  
ebleicher/test1,JOB_ARGS=,AIF_MODE=enterprise,PAS_JOB_SCRIPT=pbscp://hwesuse113-01/  
users/ebleicher/  
hello_world.sh,PAS_SERVER_PORT=17084,PAS_MEMORY=1000,PAS_CHUNK_PLACEMENT=free,JOB_SC  
RIPT=pbscp://hwesuse113-01/users/ebleicher/  
hello_world.sh,PAS_MEMORY_PLACEMENT=true,PBS_HOME=/var/spool/  
PBS,PAS_HPCBP_ARGUMENTS=runtime/  
start.py,PAS_COMPUTE_MANAGER_JOB_NAME=test1,PAS_HPCBP_EXECUTABLE=/opt/pbs/default/  
bin/pbs_python,PAS_PYTHON_PATH=/opt/pbs/default/bin/  
pbs_python,PAS_JOB_NAME=test1,PAS_NCPUS=10,PAS_SERVER_VERSION=13.2.1,AIF_USER=ebleic  
her,PBS_O_QUEUE=workq,PBS_O_HOST=hwesuse113-01.prog.altair.com  
pbs_comment : Can Never Run: Insufficient amount of resource ncpus (R: 10 A: 1 T: 1)  
pbs_etime : Wed Mar 12 13:51:38 2014  
pbs_SubStatus : 11  
pbs_array : n/a  
pbs_array_state_count : n/a  
pbs_array_indices_submitted : n/a  
pbs_array_indices_remaining : n/a
```

Error Messages

The following table lists the error messages that the `pas-stat` command may return:

Table 4. Error messages for the `pas-stat` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: PAS Server error: Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	The job does not exist on the PAS server.
ERROR: PAS server error: Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	Invalid job identifier.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.

Getting a Summary of Job Information

Use the `pas-sum` command to display a summary of the job information (similar to the PBS Professional command `qstat`). You can display a summary of job information for a specific job, or all jobs on the PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-sum [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Display a summary of job information for `JOBID`. If this option is not specified, then a summary for all jobs will be returned.

`-s PAS_SERVER`

Display a summary of job information for a job on the `PAS_SERVER`. If the server is not specified, then the default PAS server will be assumed.

Command Examples

Get a summary of the job information for a given job:

```
pas-sum -j 243.blrec166
```

Get a summary of job information for all jobs on the default PAS server:

```
pas-sum
```

Get a summary of job information for all jobs on a non-default PAS server:

```
pas-sum -s 192.168.4.123
```

Command Output Example

```
pas-sum -j 129.hwesuse113-01
pbs_jobid : 129.hwesuse113-01
pbs_Job_Name : test1
pbs_Job_Owner : ebleicher@hwesuse113-01.prog.altair.com
pbs_job_state : Q
pbs_queue : workq
```

Error Messages


The following table lists the error messages that the `pas-sum` command may return:

Table 5. Error messages for the `pas-sum` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Server <IP Address> is not found	The IP Address or the Host Name does not exist in the network or the destination host name cannot be resolved.
Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	Job does not exist on the specified PAS server.
Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	Invalid job identifier.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.

Downloading Job Results

Use the `pas-getres` command to download the files related to the given JOBID to the TARGET_LOCATION. The job must be in a running or finished state to execute this command. If the job was submitted through Compute Manager or PBS Desktop the job submission directory will be zipped and downloaded. Otherwise the standard output file, standard error file, and any other files specified in the stage-out list will be zipped.

 TARGET_LOCATION must have an ending slash or backslash:
c:\temp\
/home/user1/temp/

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-passwd` command
- issuing this command which will prompt you for a password

Usage

```
pas-getres -j JOBID -o TARGET_LOCATION [options]
```

Options

-h

Get help information for the command.

-s PAS_SERVER

Download job results for a job on the PAS_SERVER. If the server is not specified, then the default PAS server will be assumed.

Command Examples



Executing these commands will download the job results files and create a zip file called `C:\download\results\176-blrec166.zip` on the PAS client host.

Download the job results of a given job to the specified target location:

```
pas-getres -j 176.blrec166 -o C:\download\results\
```

Download the job results of a given job on a non-default PAS server:

```
pas-getres -j 176.blrec166 -o C:\download\results\ -s 192.168.4.123
```

Command Output Example

```
pas-getres -j 176.blrec166 -o C:\download\results\  
Job Id 176.blrec166 downloaded successfully
```

Error Messages

The following table lists the error messages that the `pas-getres` command may return:

Table 6. Error messages for the `pas-getres` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	The job does not exist on the PAS server.
ERROR: Destination not found.	The target location specified by -o TARGET_LOCATION does not exist
Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	Invalid job identifier.
ERROR: Invalid user name/password.	The userid and password provided is invalid.

Deleting a Job

Use the `pas-del` command to delete a given JOBID from the Workload Management System. The job can be in any of the following states:

Table 7. Valid job states for deleting a job

Job State	Description
B	Job arrays only: job array has begun.
H	Job is held. A job is put into a held state by the server or by a user or administrator. A job stays in a held state until it is released by a user or administrator.
Q	Job is queued, eligible to run or be routed.
R	Job is running.
W	Job is waiting for its requested execution time to be reached or job specified a staging request which failed for some reason.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-del -j JOBID [options]
```

Options

`-h`

Get help information for the command.

`-s PAS_SERVER`

Delete a job from the `PAS_SERVER`. If the server is not specified, then the default PAS server will be assumed.

Command Examples

Delete a job from the default PAS server:

```
>pas-del -j 243.blrec166
```

Delete a job from a non-default PAS server:

```
>pas-del -j 243.blrec166 -s 192.168.4.123
```

Command Output Example

```
pas-del -j 151.hwesuse113-01
Job(151.hwesuse113-01) deleted successfully
```

Error Messages

The following table lists the error messages that the `pas-del` command may return:

Table 8. Error messages for the `pas-del` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	Job does not exist on the specified PAS server.
Unknown Job Id provided. Operation Failed. EIFL service error: 15001 . Unknown Job Id. Id: <jobid.hostname>	Invalid job identifier.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.
ERROR: PAS Server error: Invalid request for job termination EIFL service error: 15139 Job has finished. Id: <jobid.hostname>	The job has already finished and is not eligible to be deleted.

4. Maintaining Files and Directories

Six commands are available for PAS file operations. All commands will connect to the default PAS server that was specified during the PAS Commands installation. However, in cases where you do not want to connect to the default PAS server, there is a command option for specifying a non-default PAS server.

- [Creating a Directory](#)
- [Uploading a File](#)
- [Downloading a File](#)
- [Deleting a File](#)
- [Compressing a File](#)
- [Displaying a List of Files](#)

Creating a Directory

Use the `pas-fmkdir` command to create a DIRECTORY on a PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-fmkdir -d DIRECTORY [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Make the DIRECTORY in the JOBID's execution directory. The JOBID must be in a running state.

`-s PAS_SERVER`

Create a directory on a server other than the default PAS server. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Create a directory on the default PAS server:

```
pas-fmkdir -d /users/tsmith/PBSJobApp_output
```

Create a directory on a non-default PAS Server:

```
pas-fmkdir -d /users/tsmith/PBSJobApp_output -s 192.168.4.123
```

Create a directory on a non-default PAS Server:

```
pas-fmkdir -d PBSJobApp_output -j 347.hwesuse113-01
```

Command Output Example

```
pas-fmkdir -d C:\testDir
Directory <C:\testDir> Created successfully
```

Error Messages

The following table lists the error messages that the `pas-fmkdir` command may return:

Table 1. Error messages for the `pas-fmkdir` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Destination not found.	Invalid directory path.
ERROR: Error in file list Connection error to PAS server: (111, 'Connection refused')	Default PAS server is down.
ERROR: PAS server error java.lang.Exception: DirectoryCreate Error : directory <directory name> already exists	Cannot create directory - directory already exists.
ERROR: PAS server error java.lang.Exception: DirectoryCreate Error : Permission Denied for creating directory <directory name>	Do not have permissions to create the directory.

Table 1. Error messages for the pas-fmkdir command

Error Message	Description
ERROR: FailedLoginException: Credentials Mismatch Please run pas-passwd command to set the password for pas-client user	The userid and password combination provided is invalid.
ERROR: PAS server error com.altair.gw.aif.exceptions.OperationFailedException: PySpawn: PBS error: 15139 'History job ID' 188.meta-105	The job must be in a running state to create the directory.

Uploading a File

Use the `pas-fup` command to upload a FILE to a DEST on a PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-passwd` command
- issuing this command which will prompt you for a password

Usage

```
pas-fup -f FILE -o DEST [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Upload a FILE to the JOBID's execution directory.

`-s PAS_SERVER`

Upload a FILE to the PAS_SERVER. If this option is not specified, then the default PAS server will be assumed.

`-z`

Unzip an archive file once the FILE has been uploaded to DEST.

Command Examples

Upload a file to the default PAS server:

```
pas-fup -f C:\foobar.txt -o /users/tsmith/foobar.txt
```

Upload a file to a non-default PAS Server:

```
pas-fup -f C:\foobar.txt /users/tsmith/foobar.txt -s 192.168.4.123
```

Upload a file to the job's execution directory:

```
pas-fup -j 87.blrec3vm12 -f /stage/vis.zip -o vis.zip
```

Command Output Example

```
pas-fup -f C:\foobar.txt /users/tsmith/foobar.txt
Uploaded successfully
```

Error Messages

The following table lists the error messages that the `pas-fup` command may return:

Table 2. Error messages for the `pas-fup` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Destination not found.	Invalid directory path.
ERROR: Error in upload file [Errno 2] No such file or directory: <file name>	The file you are trying to upload does not exist.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.

Downloading a File

Use the `pas-fdown` command to download a FILE from a PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-passwd` command
- issuing this command which will prompt you for a password

Usage

```
pas-fdown -f FILE [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Download a FILE from the JOBID's execution directory. The job must be in a running state.

`-o DEST`

Download a FILE from PAS_SERVER to the target location DEST. If this option is not specified, the FILE will be downloaded to the current working directory.

`-s PAS_SERVER`

Download a FILE from PAS_SERVER. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Download a file from the default PAS server:

```
pas-fdown -f /users/tsmith/results.out -o c:\temp\results.out
```

Download a file from a non-default PAS Server:

```
pas-fdown -f /users/tsmith/results.out -o c:\temp\results.out -s 192.168.4.123
```

Download a file from a running job's execution directory:

```
pas-fdown -f PBSJobApp_test.o325 -o c:\temp\PBSJobApp_test.o325 -j 325.blrec166
```

Command Output Example

```
pas-fdown -f /users/tsmith/results.out -o c:\temp\results.out
Downloaded successfully
```

Error Messages

The following table lists the error messages that the `pas-fdown` command may return:

Table 3. Error messages for the `pas-fdown` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Destination not found.	Invalid directory path.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.

Deleting a File

Use the `pas-fdel` command to delete a FILE located on the PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-fdel -f FILE [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Delete a FILE located in the JOBID's execution directory. The job must be in a running state.

`-s PAS_SERVER`

Delete a FILE located on the PAS_SERVER. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Delete a file located on the default PAS server:

```
pas-fdel -f /users/tsmith/bartest.fem
```

Delete a file located on the non-default PAS Server:

```
pas-fdel -f /users/tsmith/bartest.fem -s 192.168.4.123
```

Delete a file located in a running job's execution directory:

```
pas-fdel -f hello_world.sh -j 329.hwesuse113-01
```

Command Output Example

```
pas-fdel -f /tmp/PAS_output/PBSJobApp_test/PBSJobApp_test.e149
File(/tmp/PAS_output/PBSJobApp_test/PBSJobApp_test.e149) deleted successfully
```

Error Messages

The following table lists the error messages that the `pas-fdel` command may return:

Table 4. Error messages for the `pas-fdel` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Destination not found.	Invalid directory path.
ERROR: Error from PAS server java.lang.Exception: FileDelete Error: file <filename> does not exist	The file you are trying to delete does not exist.
ERROR: FailedLoginException: Credentials Mismatch Please run pas-passwd command to set the password for pas-client user	The userid and password combination provided is invalid.

Compressing a File

Use the `pas-fcompr` command to compress a FILE located on a PAS server to DEST.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-fcompr -f FILE -o DEST [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

Compress a FILE located in the JOBID's execution directory. The job must be in a running state.

`-s PAS_SERVER`

Compress a FILE located on the PAS_SERVER. If this option is not specified, then the default PAS server will be assumed.

Command Examples

Compress a file located on the default PAS server and create a zip file on the default PAS server:

```
pas-fcompr -f /users/tsmith/bar.fem -o /users/tsmith/bar.zip
```

Compress a file located on a non-default PAS server and create a zip file on that PAS server:

```
pas-fcompr -f /users/tsmith/bar.fem -o /users/tsmith/bar.zip -s 192.168.4.123
```

Compress a file located in a running job's execution directory and created a zip file on the default PAS server:

```
pas-fcompr -f PBSJobAppTest.o332 -o /users/tsmith/PBSJobAppTest.zip -j 332.blrec166
```

Command Output Example

```
pas-fcompr -f /tmp/PAS_output/PBSJobApp_test/PBSJobApp_test.o149 -o /tmp/j149.zip
File(/tmp/PAS_output/PBSJobApp_test/PBSJobApp_test.o149) compressed successfully
```

Error Messages

The following table lists the error messages that the `pas-fcompr` command may return:

Table 5. Error messages for the `pas-fcompr` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: Destination not found.	Invalid directory path.
ERROR: Error from PAS server java.lang.Exception: FileCompress: file not found. Message from script: file path does not exist: <path to file>	The file you are trying to compress does not exist.
ERROR: FailedLoginException: Credentials Mismatch Please run pas-passwd command to set the password for pas-client user	The userid and password combination provided is invalid.

Displaying a List of Files

Use the `pas-flist` command to display a list of FILES located on the PAS server.

In the following two cases, your PAS Commands password must be set before this command will execute successfully. Once your password is set, you are not required to enter the password again.

- on Windows platforms
- on Linux platforms where server-based authentication is being implemented (your site is not implementing password-less authentication or token-based authentication)

You may set your password by:

- using the `pas-password` command
- issuing this command which will prompt you for a password

Usage

```
pas-flist -f FILE [options]
```

Options

`-h`

Get help information for the command.

`-j JOBID`

List FILES in the job's execution directory. The job must be in a running state.

`-s PAS_SERVER`

List FILES located on the `PAS_SERVER`. If the option is not specified, then the default PAS server will be assumed.

Command Examples

List files in a directory located on the default PAS server:

```
pas-flist -f /stage/tsmith/test1
```

List files in a directory located on a non-default PAS server:

```
pas-flist -f /stage/tsmith/test1 -s 192.168.4.123
```

List a specific file located on the default PAS server:

```
pas-flist -f /stage/tsmith/test1/test1.o2
```

List a specific file in the job's execution directory:

```
pas-flist -f dir1ister.e361 -j 248.blrec166
```

List all files in the job's execution directory:

```
pas-flist -f . -j 248.blrec166
```

Command Output Example

```
pas-flist -f . -j 335.hwesuse113-01
hello_world.sh
pbsjob.env
pbs_spawn
PBSJobApp_test.e335
runtime
PBSJobApp_test.o335
```

Error Messages

The following table lists the error messages that the `pas-flist` command may return:

Table 6. Error messages for the `pas-flist` command

Error Message	Description
ERROR: Default server not found	A default server has not been defined.
ERROR: PAS server error java.lang.Exception: FileList: file <pathname> does not exist	File/directory does not exist.
ERROR: FailedLoginException: Credentials Mismatch Please run <code>pas-passwd</code> command to set the password for <code>pas-client</code> user	The userid and password combination provided is invalid.

5. PAS Commands Quick Reference

The following is a list of all PAS Commands and a link to each command's documentation page.

Table 1. Administering PAS

Command	Description
pas-admin	Determines if the user has administrative privileges on the PAS server.
pas-getsroot	Returns the root directory of the staging area on the PAS server.
pas-getsrv	Displays information about the PAS server.
pas-passwd	Set the user's password.
pas-ping	Checks if the PAS server is up or down.
pas-ver	Displays PAS version and build information.

Table 2. Submitting and Monitoring Jobs

Command	Description
pas-del	Deletes a job from the Workload Management System.
pas-getapp	Returns a list of all parameters available for the specified application as defined by the application definition on the PAS server.
pas-getapps	Returns a list of all applications known to the PAS server.
pas-getres	Downloads the files related to the given job identifier.
pas-stat	Displays the status of a job. You can display the status of a particular job or the status of all jobs.
pas-submit	Submits a job to the PAS server.
pas-sum	Displays a summary of the job information. You can display a summary of job information for a specific job, or all jobs on the PAS server.

Table 3. Maintaining Files and Directories

Command	Description
pas-fcompr	Compresses a file on the PAS server.
pas-fdel	Deletes a file from the PAS server.
pas-fdown	Downloads a file.
pas-flist	Displays a list of files on the PAS server.
pas-fmkdir	Creates a directory on the PAS server.
pas-fup	Uploads a file.

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