

# qbsub

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## Description

**qbsub** submits a command for the Supervisor to schedule. If the `--range` is specified, a job with an agenda will be submitted.

## Usage

`qbsub [options] command`

where *command* is a command to be executed on the remote host.

## Options

Option	Description
<code>--name string</code>	Job name
<code>--priority int</code>	Priority value
<code>--requirements string</code>	Job requirements expression - <a href="#">Job Requirements</a>
<code>--reservations string</code>	Job reservations expression - <a href="#">Job Reservations</a>
<code>--restrictions string</code>	Job restrictions expression - <a href="#">worker_restrictions</a>
<code>--pid int</code>	Parent job to submitted job
<code>--pgrp int</code>	Process group ID
<code>--cluster string</code>	Cluster specification
<code>--kind string</code>	Job kind
<code>--account string</code>	Arbitrary accounting data string
<code>--user string</code>	User account to use <b>Note: needs admin or impersonation privilege</b>
<code>--domain string</code>	Qube! domain to use <b>Note: needs admin or impersonation privilege</b>
<code>--cpus int</code>	Number of subjobs to run
<code>--max_cpus int (or "**")</code>	Maximum number of instances to use ("**" means "no limit") for Smart-share auto-expansion (new in 6.6)
<code>--processors int</code>	Number of processors to reserve per host
<code>--status string</code>	Initial job state (blocked or pending)
<code>--hosts string,...</code>	List of comma delimited hosts to run job on
<code>--omithosts string,...</code>	List of comma delimited hosts to not run job on
<code>--groups string,...</code>	List of comma delimited host groups to run job on
<code>--omitgroups string</code>	List of comma delimited host groups to not run job on
<code>--hostorder string</code>	Order in which the hosts are preferred - <a href="#">hostorder syntax</a>
<code>--flags string,...</code>	Flags (see below for description of all available flags)
<code>--mail</code>	Email job owner when job is complete.
<code>--dependency string</code>	Wait until trigger <i>string</i> condition has been met before starting.
<code>--preexec string</code>	Execute command <i>string</i> on the Supervisor when the job starts running.

--postexec <i>string</i>	Execute command <i>string</i> on the Supervisor when the job completes.
--waitfor <i>int</i>	Wait until job ID <i>int</i> is done before starting.
--timelimit <i>int</i>	Automatically kill the job if it runs longer than <i>int</i> seconds.
--agendatimelimit <i>int</i>	Automatically kill an agenda item if it runs longer than <i>int</i> seconds.
--waiton	Qbsub will block until the submitted job completes.
--range <i>string</i>	Execute over range <i>string</i> QB_FRAME_NUMBER
--padding <i>int</i>	Range pad value.
--reverse	Reverse the frame range
--binary	Use binary for frame range ordering
--partitions <i>int</i>	Number of partitions to use (default: # of frames)
--chunk <i>int</i>	Number of frames to use per partition (default: 1)
--p_agenda <i>string</i>	Specify which frames to use as p-agenda (default: 1 <sup>st</sup> , last, and middle frames)
--p_priority <i>int</i>	Set priority for p-agenda (default: site-wide value, or 1)
--p_cpus <i>int</i>	Number of subjobs to use to process p-agenda (default: length of p-agenda list)
--export <i>string</i>	Export job to *.qja file.
--import <i>string</i>	Import job from *.qja file.
--address <i>string, ...</i>	List of <i>string</i> email addresses when using --email option
--type <i>string</i> --prototype <i>string</i>	Use <i>string</i> job type.
--data <i>string</i>	Raw package data <i>string</i> (for use only with --type option).
--retrysubjob <i>int</i>	Retry each subjob <i>int</i> times.
--retrywork <i>int</i>	Retry each work agenda item <i>int</i> times.
--retryworkdelay <i>int</i>	Insert artificial delay of <i>int</i> seconds before each automatic retry of work item
--preflights <i>string,...</i>	instance-level preflights (comma-separated)
--postflights <i>string,...</i>	instance-level postflights (comma-separated)
--agenda_preflights <i>string,...</i>	agenda-level preflights (comma-separated)
--agenda_postflights <i>string,...</i>	agenda-level postflights (comma-separated)
--xml	Output in XML format
--help	Command help
--version	Command version

Flag	Value	Description
auto_mount	8	Require automatic drive mounts on worker.
auto_wrangling	16384	Enable auto-wrangling for this job.
convert_path	131072	Automatically convert paths on worker at runtime.
disable_auto_complete	8192	Normally instances are automatically completed by the system when a job runs out of available agenda items. Setting this flag disables that.
disable_cpu_limit	4096	Normally, if a job is submitted with the number of instances greater than there are agenda items, Qube! automatically shrinks the number of instances to be equal to the number of agenda items. Setting this flag disables that.

disable_windows_job_object	2048	<b>(Deprecated in Qube6.5)</b> Disable Windows' process management mechanism (called the "Job Object") that Qube! normally uses to manage job processes. Some applications already use it internally, and job objects don't nest well within other job objects, causing jobs to crash unexpectedly.
elite	512	Submit job as an elite job, which will be started immediately regardless of how busy the farm is. Elite jobs are also protected from preemption. Must be admin.
export_environment	16	Use environment variables set in the submission environment, when running the job on the workers.
expand	32	<b>(Deprecated in Qube6.5)</b> Automatically expand job to use as many instances as there are agenda items (limited by the total job slots in the farm).
grid	4	Wait for all instances to start before beginning work (useful for implementation of parallel jobs, such as satellite renders).
host_list	256	Run job on all candidate hosts, as filtered by other options (such as "hosts" or "groups").
mail	1024	Send e-mail when job is done.
migrate_on_frame_retry	65536	When an agenda item (frame) fails but is retried automatically because the retrywork option is set, setting this flag causes the instances to be migrated to another worker host, preventing the frame from running on the same host.
no_defaults	524288	Prevent supervisor from applying supervisor_job_flags
p_agenda	32768	Enable p-agenda for this job, so that some frames are processed at a higher priority.
uninterruptible	1	Prevent job from being preempted.

## Notes

## Examples

Submit "ls -l" job named "myjob1" to run on 2 cpus:

```
% qbsub --name myjob1 --cpus 2 ls -l
```

Submit maya render to machine that has maya installed:

```
% qbsub -priority 1 --reservations host.maya=1 Render -s 1 -e 30 myscene.ma
```

Submit a render job at priority 1 which matches host qb003:

```
% qbsub -priority 1 --requirements host.name=qb003 Render -s 1 -e 30 myscene.ma
```

Submit a simple ls job and send [testuser@example.com](mailto:testuser@example.com) notification when the job is complete:

```
% qbsub --mail --address "testuser@example.com" ls
```

Export to job.qja template file a simple dir command with priority set to 5:

```
% qbsub --priority 5 --export job.qja dir
```

Import job.qja template and submit this template and override the cluster specification to /example:

```
% qbsub --cluster /example --import job.qja
```

Submit an agenda-based, 200-frame Maya "Render" job, to be processed by 10 subjobs:

```
% qbsub --range 1-200 --cpus 10 Render --s QB_FRAME_NUMBER --e QB_FRAME_NUMBER /path/to/myscene.ma
```

Same as above, but use p-agenda to process some key frames at higher priority. We'll let the system choose the p-agenda, which will be the 1<sup>st</sup>, last, and middle frames of the entire range (i.e. 1, 200, and 99). Note also that this submission will generate 2 jobs:

```
% qbsub --range 1-200 --flags "p_agenda" --cpus 10 Render --s QB_FRAME_NUMBER --e QB_FRAME_NUMBER /path/to/myscene.ma
```

Same as above, but explicitly specify p-agenda frames. Note that we can omit the "-flags" option in this case:

```
% qbsub --range 1-200 --p_agenda "1-200x50" --cpus 10 Render --s QB_FRAME_NUMBER --e QB_FRAME_NUMBER /path/to/myscene.ma
```

Execute "myprog /home/data/myfile.data", but convert the path at runtime to a suitable path on the worker if necessary (as dictated by the

worker\_path\_map defined on the worker):

## See also

[Job Requirements](#)

[Job Reservations](#)

[How to restrict a host to only one instance of a given kind of job, but still allow other jobs](#)

[Host Ordering](#)