

How to submit a job to only empty workers, regardless of slot count

It can happen that you want to send jobs to the farm and only have them run on workers that have no other jobs running. This is especially handy if your job will run an application that "auto-detects" the number of cores on a machine, and will automatically run the appropriate number of threads, 1 per core.

To accomplish this, set the job's **requirements** string to any one of these 3 equivalent expressions:

- `host.processors.used=0`
- `host.processors.used==0`
- `host.processors.used eq 0`

To ensure that this job reserves the entire worker, set the job's **reservations** to reserve all slots, with:

- `host.processors=1+`

WranglerView / ArtistView submission example:

- set the job's **requirements** to: `host.processors.used=0`
- set the job's **reservations** to: `host.processors=1+`

Command-line example

```
qbsub --reservations host.processors=1+ --requirements "host.processors.used=0" ...
```

API example:

```
job = {  
  'prototype': 'cmdline',  
  'name': 'testing the job kind',  
  'package': {'cmdline': 'sleep 30'},  
  'reservations': 'host.processors=1+',  
  'requirements': 'host.processors.used=0'  
}
```