GNU Parallel Cheat Sheet

GNU Parallel is a replacement for `xargs` and `for` loops. It can also split a file or a stream into blocks and pass those to commands running in parallel.

Examples

Compress all *.html files in parallel – 2 jobs per CPU thread in parallel
```
parallel --jobs 200% gzip ::: *.html
```

Convert all *.wav to *.mp3 using `lame` – 1 job per CPU thread in parallel (default)
```
parallel lame {} -o {.}.mp3 ::: *.wav
```

Chop bigfile into 1MB blocks and grep for the string foobar
```
cat bigfile | parallel --pipe grep foobar
```

Input sources

- `parallel echo ::: cmd line input source`
- `cat input_from_stdin | parallel echo`
- `parallel echo ::: multiple input sources ::: with values`
- `parallel -a input_from_file echo`
- `parallel echo ::: input_from_file`
- `parallel echo ::: input_from_file ::: and command line`

Replacement string

| `{}` | Value if input is mydir/mysubdir/myfile.myext |
| `{.}` | mydir/mysubdir/myfile |
| `{/}`, `{//}`, `{/.}` | myfile.myext, mydir/mysubdir, myfile |
| `#` | The sequence number of the job |
| `%` | The job slot number |
| `{2}` | Value from the second input source |
| `{2/}` | Combination of `{2}` and `{.}` `{/}` `{//}` `{/.}` |
| `{= perl expression =}` | Change $ with perl expression |

Control the output – keep the same order as the input, prepend with input value
```
parallel --keep-order --tag "sleep {}; echo {}" ::: 5 4 3 2 1
```

Control the execution

Run 2 jobs in parallel – command is a composed command
```
parallel --jobs 2 "sleep {}; echo {}" ::: 5 4 3 2 1
```

See what will be run
```
parallel --dryrun echo {2} {1} ::: bird flower fish ::: Red Green Blue
```

Remote execution
```
parallel -S server1 -S server2 "hostname; echo {}" ::: foo bar
```

Pipe mode
```
cat bigfile | parallel --pipe wc -l
```

Chop bigfile into one block per CPU thread and `grep` for foobar
```
parallel -a bigfile --pipepart --block -l grep foobar
```

Read more – Your command line will love you for it
```
parallel --help; man parallel; man parallel_tutorial; www.pi.dk/1
```

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