

# xargs Cheatsheet

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## Quick reference for building commands from standard input with xargs in Linux

The `xargs` command builds and runs commands from standard input. This cheatsheet covers common `xargs` patterns for batching arguments, handling spaces safely, previewing commands, and combining `xargs` with tools like `find`.

### Basic Syntax

Core `xargs` command forms.

<code>xargs command</code>	Read stdin and pass items to a command
<code>printf '%s\n' a b c   xargs command</code>	Pass newline-separated items to a command
<code>cat list.txt   xargs command</code>	Read arguments from a file through stdin
<code>xargs</code>	Use <code>/bin/echo</code> as the default command
<code>xargs --help</code>	Show available options

### Limit Arguments

Control how many items `xargs` passes at a time.

<code>printf '%s\n' a b c   xargs -n 1 echo</code>	Pass one argument per command run
<code>printf '%s\n' a b c d   xargs -n 2 echo</code>	Pass two arguments per command run
<code>printf '%s\n' a b c   xargs -L 1 echo</code>	Read one input line per command run
<code>printf '%s\n' a b c   xargs -P 4 echo</code>	Run up to four commands in parallel
<code>printf '%s\n' a b c   xargs -n 100 rm</code>	Batch large argument lists

## Replace Input

Use placeholders when each input item must appear in a specific position.

<pre>printf '%s\n' file1 file2   xargs -I {} touch {}</pre>	Replace <code>{}</code> with each input item
<pre>printf '%s\n' file1 file2   xargs -I % sh -c 'echo %; ls -l %'</pre>	Run multiple commands per item
<pre>printf '%s\n' img1 img2   xargs -I {} mv {} {}.bak</pre>	Reuse the same item twice
<pre>printf '%s\n' user1 user2   xargs -I {} id {}</pre>	Insert input into a fixed command pattern
<pre>printf '%s\n' src1 src2   xargs -I {} cp {} /backup/</pre>	Copy each input item to a directory

## Safe File Handling

Use null-delimited input when paths may contain spaces or special characters.

<pre>find . -type f -print0   xargs -0 rm -f</pre>	Remove found files safely
<pre>find . -name '*.log' -print0   xargs -0 ls -lh</pre>	List matching files safely
<pre>find . -type f -print0   xargs -0 -n 1 basename</pre>	Process one safe path at a time
<pre>printf '%s\0' 'file one' 'file two'   xargs -0 -n 1 echo</pre>	Feed null-delimited names directly
<pre>find /var/www -type f -print0   xargs -0 chmod 644</pre>	Apply permissions to many files safely

## Preview and Confirm

Check generated commands before running them.

<pre>printf '%s\n' a b c   xargs -t touch</pre>	Print each command before execution
<pre>printf '%s\n' a b c   xargs -p rm</pre>	Prompt before running the command
<pre>find . -type f -print0   xargs -0 -t rm -f</pre>	Preview destructive file removals
<pre>find . -type f -print0   xargs -0 echo rm -f</pre>	Dry run by replacing <code>rm</code> with <code>echo</code>
<pre>printf '%s\n' a b c   xargs -r echo</pre>	Do nothing if stdin is empty

## Read from Files

Load items from a file instead of a pipeline.

<code>xargs -a list.txt echo</code>	Read arguments from <code>list.txt</code>
<code>xargs -a ips.txt -L 1 ping -c 1</code>	Read one IP per line and ping it
<code>xargs -a packages.txt sudo apt install</code>	Install packages listed in a file
<code>xargs -a dirs.txt mkdir -p</code>	Create directories from a file
<code>xargs -a users.txt -n 1 id</code>	Check users listed in a file

## Troubleshooting

Quick checks for common `xargs` issues.

Filename split at spaces	Use <code>find -print0   xargs -0</code>
Too many arguments at once	Add <code>-n N</code> to batch input
Command order looks wrong	Add <code>-t</code> to print generated commands
Empty input still runs command	Use <code>-r</code> to skip empty stdin
Need item in the middle of a command	Use <code>-I {}</code> with a placeholder

## Related Guides

Use these guides for full command workflows.

<a href="#">xargs Command in Linux</a>	Full <code>xargs</code> tutorial with practical examples
<a href="#">find Files in Linux</a>	Build file lists to pass into <code>xargs</code>
<a href="#">rm Command in Linux</a>	Remove files safely in bulk operations
<a href="#">grep Command in Linux</a>	Filter text before passing results to <code>xargs</code>
<a href="#">Bash Cheatsheet</a>	Shell patterns for scripts and pipelines