rsync File sync tool

CONCEPTS

A trailing slash on the source copies its contents; without it the folder itself lands inside the destination.

Source local or host:path
↓ quick check
Compare size + mtime
↓ delta
Transfer changed parts only
↓ apply
Destination local or host:path

Always rehearse with -n (dry run) before using --delete or --remove-source-files.

Remote jobs need rsync installed on both ends. Daemon mode (host::module) is unencrypted; use ssh for sensitive data.

BASIC COPY

rsync -av *<src>*/ *<dest>*/
Copy contents, keep attributes

rsync -av *<src>* *<dest>*/
Copy the folder itself into dest

rsync -n -av *<src>*/ *<dest>*/
Dry run, change nothing

rsync -avP *<src>* *<dest>*
Show progress, keep partial files

rsync -avh --info=progress2 *<src>*/ *<dest>*/
One overall progress line

rsync -avi *<src>*/ *<dest>*/
Itemize what changes per file

rsync -a --stats -h *<src>*/ *<dest>*/
Print transfer totals

rsync -r *<src>*/ *<dest>*/
Recurse without attributes

rsync -a *<file>* *<dest>*/*<newname>*
Copy one file, renaming it

rsync -R *<path/./sub/file>* *<dest>*/
Keep part of the source path

REMOTE SYNC

rsync -avz *<src>*/ *<user>*@*<host>*:*<dir>*/
Push to a remote host

REMOTE SYNC (cont.)

rsync -avz *<user>*@*<host>*:*<dir>*/ *<dest>*/
Pull from a remote host

rsync -avz -e "ssh -p *<port>*" *<src>*/ *<host>*:*<dir>*/
Use a custom ssh command

rsync -a --bwlimit=*<rate>* *<src>*/ *<host>*:*<dir>*/
Limit bandwidth

rsync -a --rsync-path="sudo rsync" *<src>*/ *<host>*:*<dir>*/
Run remote side as root

INCLUDE & EXCLUDE

--exclude '*<pattern>***'**
Skip matching files

--exclude '*<dir>***/'**
Skip a directory

--exclude '/*<path>***'**
Skip only at the transfer root

--include '*<pattern>***'**
Re-include; must precede the exclude

--exclude-from *<file>*
Read exclude patterns from a file

--files-from *<file>*
Copy exactly the listed paths

Pattern wildcards

Pattern	Matches
`*`	any chars except /
`**`	any chars including /
`?`	one char except /
`[abc]`	one of a, b, c
`dir/***`	dir and everything in it

DELETING & SAFETY

rsync -av --delete *<src>*/ *<dest>*/
Remove extras from destination

rsync -av --delete-after *<src>*/ *<dest>*/
Delete only after the transfer

rsync -av --max-delete=*<n>* *<src>*/ *<dest>*/
Cap number of deletions

rsync -av --remove-source-files *<src>*/ *<dest>*/
Move files, not copy

rsync -av -b --backup-dir=*<dir>* *<src>*/ *<dest>*/
Keep replaced files in a folder

DELETING & SAFETY (cont.)

rsync -av --ignore-existing *<src>*/ *<dest>*/
Never overwrite existing files

rsync -avu *<src>*/ *<dest>*/
Skip files newer on the receiver

COMPARING & RESUMING

rsync -avc *<src>*/ *<dest>*/
Compare by checksum

rsync -av --link-dest=*<prev>* *<src>*/ *<new>*/
Hard-link unchanged files

rsync -avn --itemize-changes *<src>*/ *<dest>*/
Preview exactly what would change

ATTRIBUTES

rsync -aHAX *<src>*/ *<dest>*/
Add hard links, ACLs, xattrs

rsync -a --numeric-ids *<src>*/ *<dest>*/
Keep raw uid/gid numbers

RECIPES

Deploy a site

```
rsync -avz --delete \
  --exclude '.git/' --exclude
'node_modules/' \
  ./build/ <user>@<host>:/var/
www/site/
```

Dated hard-link backups

```
today=$(date +%F)
rsync -a --delete --link-dest=../
latest \
  <src>/ <backup>/$today/
ln -sfn $today <backup>/latest
```

Only one file type

```
rsync -av --include='*/' --
include='*.jpg' \
  --exclude='*' -m <src>/ <dest>/
```

Resume a large transfer

```
rsync -avP --partial-dir=.rsync-
partial \
  <big-dir>/ <user>@<host>:<dir>/
# rerun the same command after an
interruption
```

HELP

man rsync
Full manual