Rsync

Simple exact copy

Including all permisions, time, etc.

```
rsync -az --verbose --itemize-changes --times --recursive --whole-file --delete --links root@192.168.178.80:/source_dir/ /target_dir
```

Notice the **'/'** behind the source_dir

Output flags

Each bit position and value in rsync's output:

```
  YXcstpoguax  path/to/file
  |||||||||||
  ||||||||||└- x: The extended attribute information changed
  |||||||||└-- a: The ACL information changed
  ||||||||└--- u: The u slot is reserved for future use
  |||||||└---- g: Group is different
  ||||||└----- o: Owner is different
  |||||└------ p: Permission are different
  ||||└------- t: Modification time is different
  |||└-------- s: Size is different
  ||└--------- c: Different checksum (for regular files), or
  ||              changed value (for symlinks, devices, and special files)
  ||
  |└---------- the file type:
  |            f: for a file,
  |            d: for a directory,
  |            L: for a symlink,
  |            D: for a device,
  |            S: for a special file (e.g. named sockets and fifos)
  |
  └----------- the type of update being done::
               <: file is being transferred to the remote host (sent)
               >: file is being transferred to the local host (received)
               c: local change/creation for the item, such as:
                  - the creation of a directory
                  - the changing of a symlink,
                  - etc.
               h: the item is a hard link to another item (requires
                  --hard-links).
               .: the item is not being updated (though it might have
                  attributes that are being modified)
               *: means that the rest of the itemized-output area contains
                  a message (e.g. "deleting")
```

Some example output from rsync for various scenarios:

```
  >f+++++++++ some/dir/new-file.txt
  .f....og..x some/dir/existing-file-with-changed-owner-and-group.txt
  .f........x some/dir/existing-file-with-changed-unnamed-attribute.txt
  >f...p....x some/dir/existing-file-with-changed-permissions.txt
  >f..t..g..x some/dir/existing-file-with-changed-time-and-group.txt
  >f.s......x some/dir/existing-file-with-changed-size.txt
  >f.st.....x some/dir/existing-file-with-changed-size-and-time-stamp.txt
  cd+++++++++ some/dir/new-directory/
  .d....og... some/dir/existing-directory-with-changed-owner-and-group/
  .d..t...... some/dir/existing-directory-with-different-time-stamp/
```

Full backup

```
rsync -haxAX --stats --delete --info=progress2 --info=name0 /* "$TargetMnt"
--exclude={/dev/*,/proc/*,/sys/*,/tmp/*,/run/*,/mnt/*,/media/*,/lost+found}

Some notable comments about parameters:

    --stats gives information on files added, changed and deleted from the
clone (called backup in your case).
    --delete instructs rsync to delete files in the clone that no longer
exist in the source directory.
    info=progress2 gives a modern looking progress display whilst cloning
directories.
    --info=name0 prevents every single filename from being displayed as it
is being copied. This gives less screen clutter but you may want to omit
this parameter.
    /* tells rsync where to start synchronizing files. In this example it's
the root directory but you want to change it to /media/user1/DATA4/FolderA.
    "$TargetMnt" tells rscync where to clone to. In your case change it to
"/media/ivan/Seagate Backup Plus Drive/FolderA". The double quotes are
important because your directory names contain spaces in them.
    The second line starting with --exclude={/dev/* you don't need at all
because these directories aren't in the list. Don't use this line and drop
the line continuation character \ at the end of the first line.
```

As with all backup scenarios always test the backups to make sure all files are there and contain the appropriate information.

From:
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Last update: **2023/09/08 10:37**