

Name: Huzaifa Ali (2303.KHI.DEG.016)

Assignment Partner: Muhammad Safi (2303.KHI.DEG.023)

**ASSIGNMENT:** On a linux server setup a cron job for copying example data with rsync periodically.

Ensure the copying is handled in the background and independently of the user session.

Breakdown:

### 1. Installing cron and configuring it.

```
(base) huziafaali@all-MS-7D35:~$ sudo apt install cron
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
cron is already the newest version (3.0pl1-137ubuntu3).
cron set to manually installed.
The following packages were automatically installed and are no longer required:
  libflashrom1 libftdi1-2 liblvm13
Use 'sudo apt autoremove' to remove them.
0 upgraded, 0 newly installed, 0 to remove and 100 not upgraded.
(base) huziafaali@all-MS-7D35:~$ crontab -e
no crontab for huziafaali - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano        <---- easiest
 2. /usr/bin/vim.tiny
 3. /bin/ed

Choose 1-3 [1]:
No modification made
```

### 2. Checking rsync and its version.

```
(base) huziafaali@all-MS-7D35:~$ rsync --version
rsync version 3.2.7 protocol version 31
Copyright (C) 1996-2022 by Andrew Tridgell, Wayne Davison, and others.
Web site: https://rsync.samba.org/
Capabilities:
```

### 3. Creating Folders for test files to transfer.

```
(base) huziafaali@all-MS-7D35:~$ mkdir original
(base) huziafaali@all-MS-7D35:~$ mkdir duplicate
(base) huziafaali@all-MS-7D35:~$ touch original/{1..3}
```

#### 4. Setting up a job at cron to automate the file transfer.

```
(base) huziafaali@all-MS-7D35:~$ crontab -e
no crontab for huziafaali - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano        <---- easiest
 2. /usr/bin/vim.tiny
 3. /bin/ed

Choose 1-3 [1]:
No modification made
(base) huziafaali@all-MS-7D35:~$ mkdir original
(base) huziafaali@all-MS-7D35:~$ mkdir duplicate
(base) huziafaali@all-MS-7D35:~$ touch original/{1..3}
(base) huziafaali@all-MS-7D35:~$ crontab -e
no crontab for huziafaali - using an empty one
crontab: installing new crontab
(base) huziafaali@all-MS-7D35:~$ crontab -ls
crontab: invalid option -- 's'
crontab: usage error: unrecognized option
usage: crontab [-u user] file
       crontab [-u user ] [-i ] { -e | -l | -r }
              (default operation is replace, per 1003.2)
       -e      (edit user's crontab)
       -l      (list user's crontab)
       -r      (delete user's crontab)
       -i      (prompt before deleting user's crontab)
(base) huziafaali@all-MS-7D35:~$ crontab -l
# Edit this file to introduce tasks to be run by cron.
#
# Each task to run has to be defined through a single line
# indicating with different fields when the task will be run
# and what command to run for the task
#
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').
#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
#
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
#
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
# 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
# For more information see the manual pages of crontab(5) and cron(8)
#
# m h dom mon dow   command
* * * * * rsync /home/huziafaali/original/* /home/huziafaali/duplicate/
```

#### OUTPUT:

The Purpose of the following commands were to set up a file transfer scheduler using cron and rsync, so that the files can be transferred or backed up in background without bothering the user and that too periodically.

Due to testing purposes, we have kept the periods on a per minute basis to ensure the system works properly.

Below are the results attached of the files transferred from original to duplicate.

