**HOW TO SYNCHRONIZE TWO LINUX SERVERS OVER THE NETWORK OR VIA INTERNET**

1. **Install rsync using yum on CentOS servers**

root@snet[~]# yum -y install rsync

1. **Install rsync using apt-get on Ubuntu server**

root@snet[~]# sudo apt-get update

root@snet[~]# sudo apt-get install rsync

1. **To synchronize a directory from local system with a remote system**

root@snet[~]# rsync -azvr /clouddrive [root@172.168.1.103:/home](mailto:root@172.168.1.103:/home)

1. **To synchronize directories securely over SSH**

If you want to transfer files securely to remote system, use **“-e ssh”** option.

root@snet[~]# rsync -azvr /clouddrive -e ssh [root@172.168.1.103:/home](mailto:root@172.168.1.103:/home)

1. **Synchronize directories between local system itself:**

If you want to synchronize files/folders within the local system folders

root@snet[~]# rsync -azvr /clouddrive /home/clouddrivebackup

1. **Synchronize a directory from remote system to local system**

root@snet[~]# rsync -azvr root@172.168.1.103:/home /clouddrive

**PERMANENTLY SYNCHRONIZE BETWEEN THE TWO SERVERS (LOCAL AND REMOTE SERVERS)**

This area shows how to permanently synchronize between local and remote systems. Synchronize the files/folders of **/clouddrive** of local system with **/home** of remote system permanently.

First, make sure that you’ve installed **rsync** packages on both source and destination servers.

1. **Make some changes in the configuration files. Do the following changes on the destination systems edit file** **/etc/default/rsync**

root@snet[~]# sudo nano /etc/default/rsync

*Find the following line*:

**RSYNC\_ENABLE=false**

*Change it to look like below*

**RSYNC\_ENABLE=true**

*Save and close the file.*

1. **Create file /etc/rsyncd.conf**,

root@snet[~]# sudo nano /etc/rsyncd.conf

*Add the following lines:*

**[backup]**

**path = /home/backupfolder**

**hosts allow = 172.168.1.102**

**hosts deny = \***

**list = true**

**uid = root**

**gid = root**

**read only = false**

*Save and close the file*.

Here, **/home/backupfolder** is the destination system synchronization directory. **172.168.1.102** is source system IP address.

Restart rsync service.

root@snet[~]# sudo systemctl start rsync

root@snet[~]# sudo /etc/init.d/rsync restart

Now, go to the source system (local system), and start the synchronization

root@snet[~]# rsync -azvr /clouddrive 172.168.1.103::backup

**AUTOMATE INCREMENTAL BACKUP (AUTOMATICAL BACKUP) USING CRON JOBS**

Synchronize the files/folders of **/clouddrive** of local system with **/home** of remote system permanently, and schedule the sync process at a particular time. Run the sync process at a particular interval every day, add the following entries in the crontab.

root@snet[~]# crontab -e

*Add the following line:*

**00 05 \* \* \* rsync -azvr /clouddrive/ 172.168.1.103::backup**

The cron job file will run every day at 5am, and start the sync process automatically.

***By Stephen Fosu***