

RANCID Server 3.1 Installation and Operation Overview

The installation will cover the setup and configuration of a RANCID server using Ubuntu 14.04 on DEVLAN.

Basic List of Software:

- OS = Ubuntu 14.04 server amd64
- RANCID = Really Awesome New Cisco config Differ (rancid-3.1.tar.gz)
- ViewVC = Front end to CVS (viewvc-1.1.22.tar.gz)

User Accounts/Setup Info:

VM name: RANCID-ubuntu14.04_x64

Full name: NDB

Username: ubuntu

Ubuntu user password: NDBrul3s!

Rancid user password: rancid

MySQL root password: NDBrul3s!

Installation Instructions:

1. Install the base OS, using the following information:
 - a) Full Name: NDB
 - b) username: ubuntu
 - c) password: <ubuntu user password>
 - d) Maximum disk size (GB): 80
2. Log into the Virtual Machine (VM) using account 'ubuntu'.
3. Add DEVLAN apt-get repository mirror.
 - a) \$ sudo vi /etc/apt/sources.list
 - b) Delete all lines in config file.
 - c) Add the line: deb http://repo.devlan.net/ubuntu/ trusty main restricted
4. Upgrade all OS packages
 - a) \$ sudo apt-get update && sudo apt-get upgrade
5. Install OpenSSH server
 - a) \$ sudo apt-get -y install openssh-server
6. Change hostname to 'rancid'
 - a) \$ echo "rancidserver" | sudo tee sudo /etc/hostname
 - b) \$ sudo hostname rancidserver
 - c) \$ sudo vi /etc/hosts
 - Change the entry for 127.0.1.1 to the following:
127.0.1.1 rancidserver
7. Reboot
 - a) \$ sudo reboot
8. Log into the console or use PuTTY to connect.
9. Run the following command to install the necessary software packages
 - a) \$ sudo apt-get -y install expect cvs python apache2 mysql-server gcc make autoconf g++ build-essential libapache2-mod-python diffutils php5 libapache2-mod-php5 python-dev libmysqlclient-dev python2.7-mysqldb
10. Reboot
 - a) \$ sudo reboot
11. Log back into VM
12. Create 'netadm' group and 'rancid' user
 - a) \$ sudo mkdir /usr/local/rancid
 - b) \$ sudo groupadd netadm
 - c) \$ sudo useradd -g netadm -c "Networking Backups" -d /usr/local/rancid rancid
 - d) \$ sudo passwd rancid
 - use password 'rancid'
13. Create rancid directory

- a) \$ sudo mkdir /usr/local/rancid/tar
14. Upload files to rancid directory
- a) \$ cd /usr/local/rancid/tar
 - b) Connect USB drive
 - c) \$ sudo fdisk -l
 - Note the device drive used for the USB drive. You may need to wait a few seconds before the drive will be recognized.
 - d) \$ sudo mkdir /media/usb
 - e) \$ sudo mount -t ntfs-3g /dev/sdb /media/usb
 - You may need to change the device from 'sdb' to whatever result you saw as the output of 'fdisk -l'.
 - f) \$ sudo cp /media/usb/rancid/*.{py,gz} /usr/local/rancid/tar
15. Install RANCID 3.1
- a) \$ cd /usr/local/rancid/tar
 - b) \$ sudo tar -xvzf rancid-3.1.tar.gz
 - c) \$ cd rancid-3.1
 - d) \$ sudo ./configure --prefix=/usr/local/rancid/
 - e) \$ sudo make install
 - f) \$ sudo cp cloginrc.sample /usr/local/rancid/.cloginrc
 - g) \$ sudo chmod 0640 /usr/local/rancid/.cloginrc
 - h) \$ sudo chown -R rancid:netadm /usr/local/rancid/
 - i) \$ sudo chmod 775 /usr/local/rancid/
16. Edit the RANCID configuration file with the following line:
- a) \$ sudo vi /usr/local/rancid/etc/rancid.conf
 - b) Add the line:
LIST_OF_GROUPS="networking"
17. Ensure CVS is installed
- a) \$ cvs
 - You should observe output regarding the CVS version, etc
18. Change to 'rancid' user
- a) \$ su - rancid
19. Configure CVS for rancid
- a) \$ /usr/local/rancid/bin/rancid-cvs
 - The output should look like the following:

```
No conflicts created by this import
cvs checkout: Updating networking
cvs checkout: Updating networking/configs
cvs add: scheduling file `router.db' for addition
cvs add: use 'cvs commit' to add this file permanently
RCS file: /usr/local/rancid//var/CVS/networking/router.db,v
done
Checking in router.db;
/usr/local/rancid//var/CVS/networking/router.db,v <-- router.db
initial revision: 1.1
done
```
20. Edit Cron jobs
- a) \$ crontab -e
 - b) Add the following lines:
- ```
1 * * * * /usr/local/rancid/bin/rancid-run #hourly router dump
50 23 * * * /usr/bin/find /usr/local/rancid/var/logs -type f -mtime +2 -exec rm
{} \;
```
21. Edit the RANCID device list and password files
- a) \$ vi /usr/local/rancid/var/networking/router.db
  - b) Add lines for each of the network devices you would like RANCID to poll
    - The format is: <IP address>;<manufacturer>;<status>
    - For example:  
**192.168.128.14;cisco;up**
22. Edit RANCID rlogin configuration file

- a) \$ vi /usr/local/rancid/.cloginrc
  - b) Comment out all lines except for the following
 

```
add cyphertype * {3des}
add noenable route-server* 1
```
  - c) Add entries for the default username, password, and method of communication
 

```
add user * {rancid}
add password * {rancid} {rancid}
add method * {ssh}
```
  - d) If any devices use a different username, password, or access method (telnet vs SSH), then you need to add entries for the devices that vary from the default settings.
    - For example if device 192.168.128.12 uses telnet and a different username/password, add the following lines:

```
add user 192.168.128.12 {billy}
add password 192.168.128.12 {userpassword} {enablepassword}
add method 192.168.128.12 {telnet}
```
23. Verify that you can SSH to the network device using the credentials that you entered into the config.
24. Now that we should have a working copy of rancid, we need to test it.
- a) \$ bin/clogin 192.168.128.14
  - b) You should see the logon process run for the network device you entered, and you should end up at the enable prompt. Exit out.
  - c) \$ /usr/local/rancid/bin/rancid-run
  - d) If successful, you should see a file named '192.168.128.14' (your network device) in the directory '/usr/local/rancid/var/networking/configs'. This file will contain the config of your device.
  - e) You can view the config by viewing the file.
  - f) \$ cat 192.168.128.14
25. Install ViewVC
- a) \$ cd /usr/local/rancid/tar
  - b) \$ su ubuntu
  - c) \$ sudo tar -zxvf viewvc-1.1.22.tar.gz
  - d) \$ cd viewvc-1.1.22
  - e) \$ sudo ./viewvc-install
    - Enter '/usr/local/viewvc' as the install path
    - Accept defaults for the remaining options by pressing Enter.
  - f) \$ sudo vi /usr/local/viewvc/viewvc.conf
  - g) Edit the config with the following options:
 

```
root_parents = /usr/local/rancid/var/CVS : cvs
rcs_dir = /usr/bin/
use_rcsparse = 1
hr_intraline = 1
```
  - h) \$ sudo mkdir /var/www/cgi-bin
  - i) \$ sudo cp /usr/local/viewvc/bin/cgi/\*.cgi /var/www/cgi-bin
  - j) \$ sudo chmod +x /var/www/cgi-bin/\*.cgi
  - k) \$ sudo a2enmod cgi
  - l) \$ sudo vi /etc/apache2/sites-available/000-default.conf
  - m) Add the following lines to the config inside the <VirtualHost> tag:
 

```
ScriptAlias /cgi-bin/ /var/www/cgi-bin/
ScriptAlias /viewvc /var/www/cgi-bin/viewvc.cgi
ScriptAlias /query /var/www/cgi-bin/query.cgi
```
  - n) Set server's fully qualified domain name (FQDN)
  - o) \$ echo "ServerName localhost" | sudo tee /etc/apache2/conf-available/fqdn.conf
  - p) \$ sudo a2enconf fqdn
  - q) \$ sudo service apache2 restart

26. Set the MySQL root password
- \$ sudo service mysql stop
  - \$ sudo /usr/sbin/mysqld --skip-grant-tables &
  - \$ mysql
  - mysql> UPDATE mysql.user SET Password=PASSWORD('NDBrul3s!') WHERE User='root';
  - mysql> FLUSH PRIVILEGES;
  - mysql> quit
27. Test MySQL root account
- \$ mysql -u root -p
  - Enter the MySQL root password
  - If you receive a 'mysql>' prompt, then you successfully logged in.
  - mysql> quit
28. Restart MySQL
- \$ sudo service mysql restart
29. Create the CVS Check-in database. You could create a new user who has permissions to create a database or just use 'root'.
- \$ sudo /usr/local/viewvc/bin/make-database
  - Enter the following information when prompted:
    - MySQL user: root
    - MySQL Password: NDBrul3s!
    - Leave all other fields as the default
30. Configure ViewVC
- \$ sudo vi /usr/local/viewvc/viewvc.conf
  - Modify the following settings
 

```
[cvsdb]
enabled = 1
host = localhost
port = 3306
database_name = ViewVC
user = root
passwd = NDBrul3s!
readonly_user = root
readonly_passwd = NDBrul3s!
row_limit = 1000
```
  - \$ sudo /usr/local/viewvc/bin/cvsdbadmin rebuild
   
/usr/local/rancid/var/CSV/CSVROOT
  - \$ sudo service apache2 restart
31. Now we should have a Web interface up and running. Go to <http://<server IP>/viewvc> and you should see a repository listing of 'networking'.
- If you need to determine the server's IP address, you can use the command "ifconfig".
32. Click on 'networking' and you should see a sub-folder called 'configs'. Click on 'configs' and you should see the IP address of the device you added. If you click on the IP address, you should be able to navigate to see the device's configuration file.
33. Assign a static IP
- \$ sudo vi /etc/network/interfaces
    - Change the following settings:

```
auto eth0
iface eth0 inet static
address 10.9.9.70
gateway 10.9.9.1
netmask 255.255.255.0
```
34. Restart networking
- \$ sudo ifdown eth0 && sudo ifup eth0
35. Confirm that the IP address is now 10.0.0.50 by issuing the 'ifconfig eth0' command and comparing the result.
36. Go to <http://10.9.9.70/viewvc> and you should see a repository listing of 'networking'.