

Log Management Part 2: Using Tenshi

Network Monitoring & Management

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1 Notes

- Commands preceded with “\$” imply that you should execute the command as a general user - not as root.
- Commands preceded with “#” imply that you should be working as root.
- Commands with more specific command lines (e.g. “rtrX>” or “mysql>”) imply that you are executing commands on remote equipment, or within another program.

2 Exercises

First make sure that your routers are configured to send logs to your PC (this should have been done in the previous exercise).

2.1 Update syslog-ng configuration

If you have not already done so, log in to your virtual machine and become the root user:

```
$ sudo -s
#
```

Configure syslog-ng to save all router logs in one file for monitoring purposes.

Edit `/etc/syslog-ng/conf.d/10-network.conf`,

```
# cd /etc/syslog-ng/conf.d/
# editor 10-network.conf
```

... and add this before the last closing brace (`};`):

```
file("/var/log/network/everything", owner(root) group(root) perm(0644));
```

In the end, the contents of the file should look like:

```
filter f_routers { facility(local0); };

log {
    source(s_src);
    filter(f_routers);
    destination(routers);
};

destination routers {
    file("/var/log/network/$YEAR/$MONTH/$DAY/$HOST-$YEAR-$MONTH-$DAY-$HOUR.log"
        owner(root) group(root) perm(0644) dir_perm(0755) create_dirs(yes)
        template("$YEAR $DATE $HOST $MSG\n"));

    file("/var/log/network/everything", owner(root) group(root) perm(0644));
};
```

This will enable logging of ALL messages matching the `local0` facility to a single file, so that we can run a monitoring script on the messages.

Be sure to save and exit from the file.

Now restart syslog-ng so that it sees the new configuration:

```
# service syslog-ng restart
```

2.2 Log rotation

Create a daily automated script to truncate the log file so it doesn't grow too big (COPY and PASTE):

```
# editor /etc/logrotate.d/everything

/var/log/network/everything {
    daily
    copytruncate
    rotate 1
    postrotate
        /etc/init.d/tenshi restart
    endscript
}
```

Then save and exit from the file.

2.3 Install tenshi

```
# apt-get install tenshi
```

2.4 Configure tenshi

Configure Tenshi to send you alarms when the routers are configured (COPY and PASTE):

```
# editor /etc/tenshi/includes-available/network

set logfile /var/log/network/everything
set queue network_alarms tenshi@localhost sysadm@localhost [*/1 * * * *] Log check

group_host 10.10
network_alarms SYS-5-CONFIG_I
network_alarms PRIV_AUTH_PASS
network_alarms LINK
group_end
```

Then save and exit from the file.

Create a symlink so that Tenshi loads your new file (COPY and PASTE):

```
# ln -s /etc/tenshi/includes-available/network /etc/tenshi/includes-active
```

Finally restart Tenshi:

```
# service tenshi restart
```

2.5 Testing Tenshi

Log in to your router, and run some “config” commands (example below):

```
$ ssh cisco@rtrX          [where "X" is your router number]
rtrX> enable
Password: <password>
rtrX# config terminal
rtrX(config)# int FastEthernet0/0
rtrX(config-if)# description Description Change for FastEthernet0/0 for Tenshi
rtrX(config-if)# ctrl-z
rtrX# write memory
```

Don't exit from the router yet. Just as in the previous syslog-ng exercises, attempt to shutdown / no shutdown loopback interface:

```
rtrX# conf t
rtrX(config)# interface Loopback 999
rtrX(config-if)# shutdown
```

wait a few seconds

```
rtrX(config-if)# no shutdown
```

Then exit, and save the config (“write mem”):

```
rtrX(config-if)# ctrl-z          (same as exit, exit twice)
rtrX# write memory
rtrX# exit
```

Verify that you are receiving emails to the sysadm user from Tenshi. A quick check is to look in the mail directory:

```
$ ls -l /var/mail
```

- Note: Tenshi checks /var/log/network/everything once a minute, so you may have to wait up to a minute for the email to arrive to the sysadm user.

Make sure you are logged in as sysadm (not root). Either open a new session to your virtual machine, or exit from the root user (exit). Then do:

```
$ mutt
```

Scroll **up/down** to select a message from “tenshi@localhost”, then press **ENTER** to view it, and **q** to quit and ‘q’ again to quit mutt.

If mails are not arriving, then check the following:

- Are logs arriving in the file `/var/log/network/everything`?

```
$ tail /var/log/network/everything
```

- Do these logs show a hostname like ‘rtr5’, or possibly an IP like 10.10.5.254 ? Remember that the way we have configured tenshi, it only looks at hostnames or IP addresses matching the pattern ‘rtr’ or ‘10.10’ (depending on how you configured tenshi).
- Check your tenshi configuration file. Restart tenshi if you change it.
- If you are still stuck ask an instructor or a neighbor for help.

2.6 Optional: Add a new Tenshi rule

See if you can figure out how to add a rule to Tenshi so that an email is sent if someone enters an incorrect enable password on your router.

Hints:

- “PRIV_AUTH_FAIL” is the Cisco IOS log message in such cases.
- To test your new rule log in to your router, type “enable” and then enter an incorrect enable password.