

Name: Md Touhidul Islam	Server technology part 2	Topic: Apache configuration to Ubuntu 20 with TotD.
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1. System update:

```

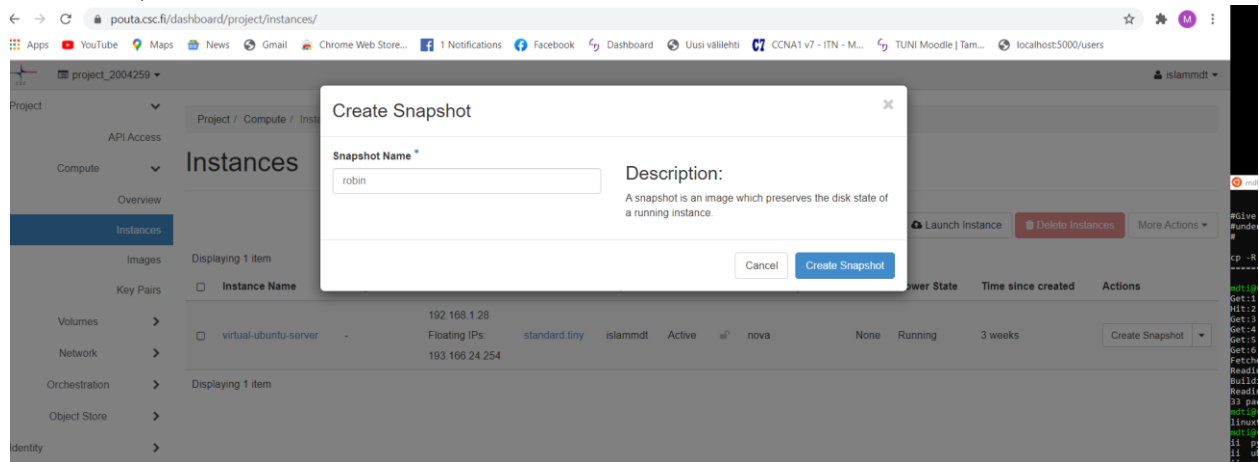
mdti@virtual-ubuntu-server:~$ sudo apt update
Get:1 http://security.ubuntu.com/ubuntu focal-security InRelease [109 kB]
Hit:2 http://nova.clouds.archive.ubuntu.com/ubuntu focal InRelease
Get:3 http://nova.clouds.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://nova.clouds.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:5 http://nova.clouds.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [951 kB]
Get:6 http://nova.clouds.archive.ubuntu.com/ubuntu focal-updates/universe amd64 Packages [765 kB]
Fetched 2040 kB in 2s (994 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
33 packages can be upgraded. Run 'apt list --upgradable' to see them.
mdti@virtual-ubuntu-server:~$ ls
linuxtips.sh  tips
mdti@virtual-ubuntu-server:~$ dpkg -l | grep upgrades
ii  python3-distupgrade      1:20.04.30             all          manage release upgrades
ii  ubuntu-release-upgrader-core 1:20.04.30             all          manage release upgrades
ii  unattended-upgrades       2.3ubuntu0.1           all          automatic installation of security upgrades
ii  update-manager-core       1:20.04.10.6           all          manage release upgrades
mdti@virtual-ubuntu-server:~$ sudo apt install unattended-upgrades
Reading package lists... Done
Building dependency tree
Reading state information... Done
unattended-upgrades is already the newest version (2.3ubuntu0.1).
unattended-upgrades set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 33 not upgraded.
mdti@virtual-ubuntu-server:~$ grep Reboot-Time /etc/apt/apt.conf.d/50unattended-upgrades Unattended-Upgrade::Automatic-Reboot-Time "02:00";
/etc/apt/apt.conf.d/50unattended-upgrades::Unattended-Upgrade::Automatic-Reboot-Time "02:00";
grep: Unattended-Upgrade::Automatic-Reboot-Time: No such file or directory
grep: 02:00: No such file or directory
mdti@virtual-ubuntu-server:~$ grep Reboot-Time /etc/apt/apt.conf.d/50unattended-upgrades Unattended-Upgrade::Automatic-Reboot-Time "02:00"
/etc/apt/apt.conf.d/50unattended-upgrades::Unattended-Upgrade::Automatic-Reboot-Time "02:00";
grep: Unattended-Upgrade::Automatic-Reboot-Time: No such file or directory
grep: 02:00: No such file or directory
mdti@virtual-ubuntu-server:~$ grep Reboot-Time /etc/apt/apt.conf.d/50unattended-upgrades
//Unattended-Upgrade::Automatic-Reboot-Time "02:00";
mdti@virtual-ubuntu-server:~$ sudo unattended-upgrades -d --dry-run
Running on the development release
Starting unattended upgrades script
Allowed origins are: o=Ubuntu,a=focal, o=Ubuntu,a=focal-security, o=UbuntuESMAppls,a=focal-apps-security, o=UbuntuESM,a=focal-infra-security
Initial blacklist:
Initial whitelist (not strict):
Marking not allowed <apt_pkg.PackageFile object: filename='/var/lib/apt/lists/nova.clouds.archive.ubuntu.com_ubuntu_dists_focal-backports_universe_i18n_Tra
lation-en' a=focal-backports,c=universe,v=20.04,o=Ubuntu,l=Ubuntu arch='' site='nova.clouds.archive.ubuntu.com' IndexType='Debian Translation Index' Size=
32 ID:17> with -32768 pin

```

2. Snapshot

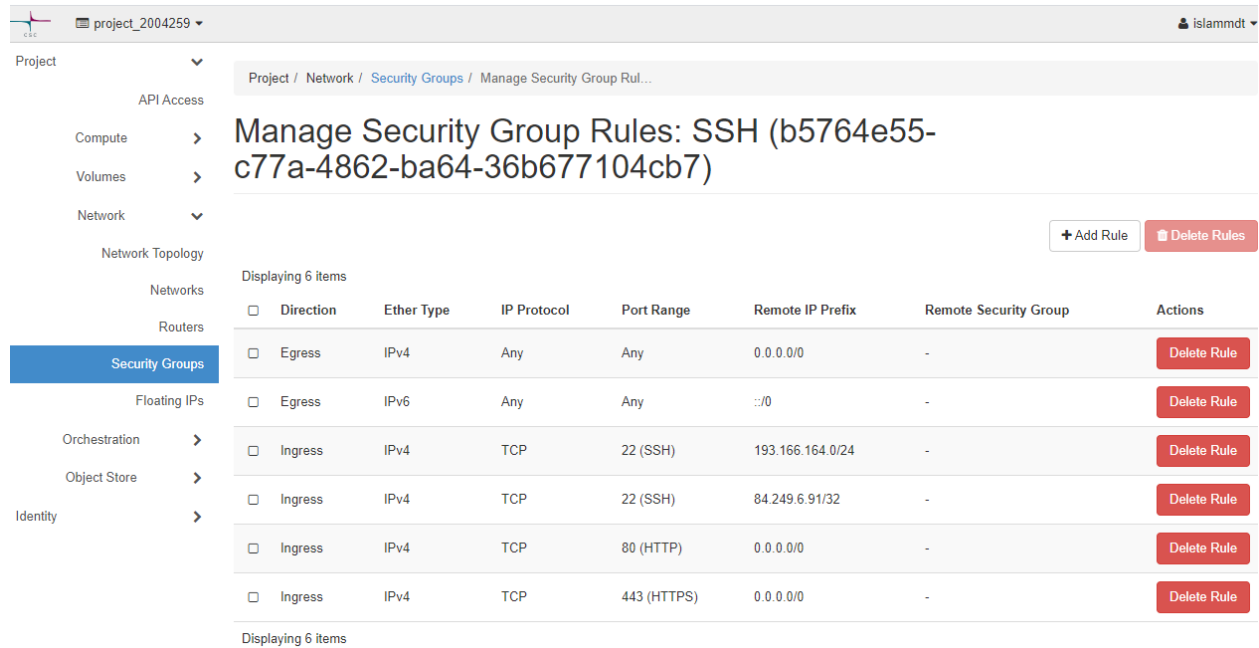
Backup and recovery

Create Snapshot:



3. Network security

Security group created and rule added.



4. Configure OS firewall service.

```
mdti@virtual-ubuntu-server:~$ sudo ufw status
Status: inactive
mdti@virtual-ubuntu-server:~$ sudo ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? n
Aborted
mdti@virtual-ubuntu-server:~$ sudo ufw enable
Command may disrupt existing ssh connections. Proceed with operation (y|n)? y
Firewall is active and enabled on system startup
mdti@virtual-ubuntu-server:~$ sudo ufw status
Status: active
mdti@virtual-ubuntu-server:~$ sudo ufw allow ssh
Rule added
Rule added (v6)
mdti@virtual-ubuntu-server:~$ sudo ufw allow http
Rule added
Rule added (v6)
mdti@virtual-ubuntu-server:~$ sudo ufw allow https
Rule added
Rule added (v6)
mdti@virtual-ubuntu-server:~$ ls
linuxtips.sh  tips
mdti@virtual-ubuntu-server:~$
```

5. Apache installation

Command: `$ sudo apt install apache2`

Virtual host configuration for `tips.robin.eduhou.fi`

Created directory for the contents:

```
mdti@virtual-ubuntu-server:~$ sudo -i
root@virtual-ubuntu-server:~# ls
snap
root@virtual-ubuntu-server:~# cd /var/www/
root@virtual-ubuntu-server:/var/www# ls
html
root@virtual-ubuntu-server:/var/www# mkdir tips.ada.eduhou.fi
root@virtual-ubuntu-server:/var/www# ls
html  tips.ada.eduhou.fi
root@virtual-ubuntu-server:/var/www# rm -r tips.ada.eduhou.fi/
root@virtual-ubuntu-server:/var/www# ls
html
root@virtual-ubuntu-server:/var/www# mkdir tips.robin.eduhou.fi
root@virtual-ubuntu-server:/var/www# ls
html  tips.robin.eduhou.fi
root@virtual-ubuntu-server:/var/www# sudo vi tips.robin.eduhou.fi/index.html
root@virtual-ubuntu-server:/var/www# cat tips.ada.eduhou.fi/index.html
cat: tips.ada.eduhou.fi/index.html: No such file or directory
root@virtual-ubuntu-server:/var/www# cat tips.robin.eduhou.fi/index.html
TotD - Hello!
root@virtual-ubuntu-server:/var/www# ls
html  tips.robin.eduhou.fi
root@virtual-ubuntu-server:/var/www#
```

Created configuration file for the virtual host:

```
root@virtual-ubuntu-server:/var/www# cd /etc/apache2/sites-available
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo cp -p 000-default.conf tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo vi tips.ada.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf tips.ada.eduhou.fi.conf tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# rm tips.ada.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo vi tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf tips.robin.eduhou.fi.conf tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo vi tips.ada.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf tips.ada.eduhou.fi.conf tips.robin.eduhou.fi.conf tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# rm tips.ada.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# rm tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo vi tips.robin.eduhou.fi.conf
```

6. Enable the site:

Command:

```
$ sudo a2ensite tips.ada.eduhou.fi
$ sudo systemctl reload apache2
```

```
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo a2ensite tips.robin.eduhou.fi
Enabling site tips.robin.eduhou.fi.
To activate the new configuration, you need to run:
  systemctl reload apache2
root@virtual-ubuntu-server:/etc/apache2/sites-available# sudo systemctl reload apache2
root@virtual-ubuntu-server:/etc/apache2/sites-available# ls
000-default.conf default-ssl.conf tips.robin.eduhou.fi.conf
root@virtual-ubuntu-server:/etc/apache2/sites-available# curl http://robin.eduhou.fi
```

TotD in your server:

```
root@virtual-ubuntu-server:/opt# git clone https://gitlab.tamk.cloud/tamk-tite-gitlab1/tipsOfTheDay.git
Cloning into 'tipsOfTheDay'...
Username for 'https://gitlab.tamk.cloud': mdtouhidul.islam@tuni.fi
Password for 'https://mdtouhidul.islam@tuni.fi@gitlab.tamk.cloud':
remote: HTTP Basic: Access denied
fatal: Authentication failed for 'https://gitlab.tamk.cloud/tamk-tite-gitlab1/tipsOfTheDay.git/'
root@virtual-ubuntu-server:/opt# git clone https://gitlab.tamk.cloud/tamk-tite-gitlab1/tipsOfTheDay.git
Cloning into 'tipsOfTheDay'...
Username for 'https://gitlab.tamk.cloud': mdtouhidul.islam@tuni.fi
Password for 'https://mdtouhidul.islam@tuni.fi@gitlab.tamk.cloud':
remote: Enumerating objects: 22, done.
remote: Counting objects: 100% (22/22), done.
remote: Compressing objects: 100% (20/20), done.
remote: Total 25 (delta 0), reused 0 (delta 0), pack-reused 3
Unpacking objects: 100% (25/25), 4.34 KiB | 296.00 KiB/s, done.
```

7. Created a symbolic link to serve the tips with our web server:

```
root@virtual-ubuntu-server: /var/www/tips.robin.eduhou.fi# ln -s /opt/tipsOfTheDay/tips
root@virtual-ubuntu-server: /var/www/tips.robin.eduhou.fi# ln -s /opt/tipsOfTheDay/tips txt
root@virtual-ubuntu-server: /var/www/tips.robin.eduhou.fi# ln -s /opt/tipsOfTheDay/tips files
root@virtual-ubuntu-server: /var/www/tips.robin.eduhou.fi# ls
files index.html tips txt
root@virtual-ubuntu-server: /var/www/tips.robin.eduhou.fi# curl http://tips.robin.eduhou.fi/tips/1.txt
date>date.txt

--with date command it is easy to format a string with date and time information.
$date "+%Y:%m:%d-%H%M%S-DATERDIR"

--- This can be used as part of a variable as well:
$ export MYVAR="HALOO"`date "+%Y:%m:%d-%H%M%S-DATERDIR"

root@virtual-ubuntu-server: /var/www/tips.robin.eduhou.fi#
```

8. Tips showing in my server

Link:

<http://tips.robin.eduhou.fi/tips/1.txt>

<http://tips.robin.eduhou.fi/files/7.txt>

<http://tips.robin.eduhou.fi/txt/10.txt>