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Day - 5

Task 1 - Make Scripts

◆ LEMP with Mongo Installation.

- Create shell script file using below command:

```
sudo nano lemp.sh
```

Write below commands in script:

```
#!/bin/bash
```

```
sudo apt-get update
```

```
sudo apt install nginx
```

```
sudo ufw allow 'Nginx HTTP'
```

```
sudo systemctl enable nginx
```

```
sudo systemctl start nginx
```

```
sudo systemctl restart nginx
```

```
systemctl status nginx.service
```

```
wget -qO - https://www.mongodb.org/static/pgp/server-6.0.asc | sudo apt-key add -
```

```
echo "deb [ arch=amd64,arm64 ] https://repo.mongodb.org/apt/ubuntu
```

```
focal/mongodb-org/6.0 multivers" | sudo tee /etc/apt/sources.list.d/mongodb-org-6.0.list
```

```
sudo apt-get update
```

```
sudo apt install -y mongodb
```

```
sudo apt-get update
```

```
sudo apt install -y mongodb-org
```

```
sudo systemctl enable mongod
```

```
sudo systemctl start mongod
```

```
sudo systemctl status mongod
```

```
sudo apt install software-properties-common
```

```
sudo add-apt-repository ppa:ondrej/php
```

```
sudo apt -y install php7.4
```

```

GNU nano 4.8                                lemp.sh                                Modified
#!/bin/bash

sudo apt-get update

sudo apt install nginx

sudo ufw allow 'Nginx HTTP'

sudo systemctl enable nginx

sudo systemctl start nginx

sudo systemctl restart nginx

systemctl status nginx.service

wget -qO - https://www.mongodb.org/static/pgp/server-6.0.asc | sudo apt-key add -

echo "deb [ arch=amd64,arm64 ] https://repo.mongodb.org/apt/ubuntu focal/mongodb-org/6.0 multivers"

```

```

sudo apt-get update

sudo apt install -y mongodb

sudo apt-get update

sudo apt install -y mongodb-org

sudo systemctl enable mongod

sudo systemctl start mongod

sudo systemctl status mongod

sudo apt install software-properties-common

sudo add-apt-repository ppa:ondrej/php

#install php version 7.4
sudo apt -y install php7.4

```

```

echo "Install Lemp(Use Mongo DB instead of Mysql) successfully installed"

exit 0

```

- Give script to execute permission.

Sudo chmod +x lemp.sh

```

nishit@nishit-VirtualBox:~$ sudo chmod +x lemp.sh
[sudo] password for nishit:
nishit@nishit-VirtualBox:~$

```

- Run script using below command:

sudo bash lemp.sh

```
nishit@nishit-VirtualBox:~$ sudo nano lemp.sh
```

Output of the script:

```
nishit@nishit-VirtualBox:~$ sudo bash lemp.sh
Ign:1 https://repo.mongodb.org/apt/ubuntu focal/mongodb-org/5.0 InRelease
Hit:2 https://dl.google.com/linux/chrome/deb stable InRelease
Ign:3 http://repo.mongodb.com/apt/ubuntu focal/mongodb-enterprise/6.0 InRelease
Hit:4 https://repo.mongodb.org/apt/ubuntu focal/mongodb-org/5.0 Release
Get:5 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Hit:6 http://ppa.launchpad.net/ondrej/php/ubuntu focal InRelease
Hit:7 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:9 http://repo.mongodb.com/apt/ubuntu focal/mongodb-enterprise/6.0 Release
Hit:11 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease
Get:12 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:8 http://downloads-distro.mongodb.org/repo/ubuntu-upstart dist InRelease [731 kB]
Err:8 http://downloads-distro.mongodb.org/repo/ubuntu-upstart dist InRelease
  Clearsigned file isn't valid, got 'NOSPLIT' (does the network require authentication?)
Reading package lists... Done
E: Failed to fetch http://downloads-distro.mongodb.org/repo/ubuntu-upstart/dists/dist/InRelease Cl
earsigned file isn't valid, got 'NOSPLIT' (does the network require authentication?)
E: The repository 'http://downloads-distro.mongodb.org/repo/ubuntu-upstart dist InRelease' is not s
igned.
N: Updating from such a repository can't be done securely, and is therefore disabled by default.
N: See apt-secure(8) manpage for repository creation and user configuration details.
Reading package lists... Done
Building dependency tree

Preparing to unpack .../4-libnginx-mod-stream_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking libnginx-mod-stream (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package nginx-core.
Preparing to unpack .../5-nginx-core_1.18.0-0ubuntu1.4_amd64.deb ...
Unpacking nginx-core (1.18.0-0ubuntu1.4) ...
Selecting previously unselected package nginx.
Preparing to unpack .../6-nginx_1.18.0-0ubuntu1.4_all.deb ...
Unpacking nginx (1.18.0-0ubuntu1.4) ...
Setting up nginx-common (1.18.0-0ubuntu1.4) ...
Created symlink /etc/systemd/system/multi-user.target.wants/nginx.service → /lib
/systemd/system/nginx.service.
Setting up libnginx-mod-http-xslt-filter (1.18.0-0ubuntu1.4) ...
Setting up libnginx-mod-mail (1.18.0-0ubuntu1.4) ...
Setting up libnginx-mod-http-image-filter (1.18.0-0ubuntu1.4) ...
Setting up libnginx-mod-stream (1.18.0-0ubuntu1.4) ...
Setting up nginx-core (1.18.0-0ubuntu1.4) ...
Setting up nginx (1.18.0-0ubuntu1.4) ...
Processing triggers for systemd (245.4-4ubuntu3.19) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for ufw (0.36-6ubuntu1) ...
Rules updated for profile 'Nginx Full'
Rules updated for profile 'Nginx HTTP'
Firewall reloaded
Skipping adding existing rule
```

- We are able to see nginx is properly work.

```
Executing: /lib/systemd/systemd-sysv-install enable nginx
● nginx.service - A high performance web server and a reverse proxy server
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2023-02-22 11:29:34 IST; 8ms ago
     Docs: man:nginx(8)
  Process: 27738 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on;
  Process: 27739 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (nginx)
 Main PID: 27740 (nginx)
    Tasks: 5 (limit: 7429)
   Memory: 3.5M
    CGroup: /system.slice/nginx.service
            └─27740 nginx: master process /usr/sbin/nginx -g daemon on; master_process on;
              └─27741 nginx: worker process
                └─27742 nginx: worker process
                  └─27743 nginx: worker process
                    └─27744 nginx: worker process

Feb 22 11:29:34 nishit-VirtualBox systemd[1]: Starting A high performance web server: nginx.
Feb 22 11:29:34 nishit-VirtualBox systemd[1]: Started A high performance web server: nginx.
OK
```

- Here, we see mongod is work.

```
● mongod.service - MongoDB Database Server
   Loaded: loaded (/lib/systemd/system/mongod.service; enabled; vendor preset: enabled)
   Active: active (running) since Wed 2023-02-22 12:58:08 IST; 1h 39min ago
     Docs: https://docs.mongodb.org/manual
 Main PID: 54321 (mongod)
   Memory: 63.7M
    CGroup: /system.slice/mongod.service
            └─54321 /usr/bin/mongod --config /etc/mongod.conf
```

```
nishit@nishit-VirtualBox:~$ mongosh
Current Mongosh Log ID: 63f5c41072d9132c8c9f8eb0
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+1.7.1
Using MongoDB:      5.0.14
Using Mongosh:      1.7.1

For mongosh info see: https://docs.mongodb.com/mongodb-shell/

-----
  The server generated these startup warnings when booting
  2023-02-22T12:58:08.879+05:30: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine. See http://dochub.mongodb.org/core/prodnotes-filesystem
  2023-02-22T12:58:09.784+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
-----

  Enable MongoDB's free cloud-based monitoring service, which will then receive and display
  metrics about your deployment (disk utilization, CPU, operation statistics, etc).

  The monitoring data will be available on a MongoDB website with a unique URL accessible to you
  and anyone you share the URL with. MongoDB may use this information to make product
  improvements and to suggest MongoDB products and deployment options to you.

  To enable free monitoring, run the following command: db.enableFreeMonitoring()
  To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
-----

Warning: Found ~/.mongorc.js, but not ~/.mongoshrc.js. ~/.mongorc.js will not be loaded.
You may want to copy or rename ~/.mongorc.js to ~/.mongoshrc.js.
test>
```

Task 2 - Nodejs version manager.

◆ Install Nodejs using package manager.

- Add the PPA sources needed to install NodeJS 16 on your Ubuntu 20.04 installation using below command:

curl -s https://deb.nodesource.com/setup_16.x | sudo bash

```
nishit@nishit-VirtualBox:~$ curl -s https://deb.nodesource.com/setup_16.x | sudo bash
## Installing the NodeSource Node.js 16.x repo...

## Populating apt-get cache...

+ apt-get update
Ign:1 http://repo.mongodb.org/apt/ubuntu focal/mongodb-org/5.0 InRelease
Hit:2 http://security.ubuntu.com/ubuntu focal-security InRelease
Hit:3 http://repo.mongodb.org/apt/ubuntu focal/mongodb-org/5.0 Release
Hit:4 https://dl.google.com/linux/chrome/deb stable InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu focal InRelease
Hit:7 http://ppa.launchpad.net/ondrej/php/ubuntu focal InRelease
Hit:8 http://in.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:9 http://in.archive.ubuntu.com/ubuntu focal-backports InRelease
Reading package lists... Done

## Confirming "focal" is supported...

+ wget -qO /dev/null -o /dev/null 'https://deb.nodesource.com/node_16.x/dists/focal/Release'

## Adding the NodeSource signing key to your keyring...

+ wget -q -O - https://deb.nodesource.com/gpgkey/nodesource.gpg.key | gpg --dearmor | tee /usr/share/keyrings/nodesource.gpg >/dev/null

## Creating apt sources list file for the NodeSource Node.js 16.x repo...

+ echo 'deb [signed-by=/usr/share/keyrings/nodesource.gpg] https://deb.nodesource.com/node_16.x focal main' > /etc/apt/sources.list.d/nodesource.list
+ echo 'deb-src [signed-by=/usr/share/keyrings/nodesource.gpg] https://deb.nodesource.com/node_16.x focal main' >> /etc/apt/sources.list.d/nodesource.list

## Running `apt-get update` for you...
```

- Now, install nodejs.

sudo apt install nodejs -y

```
nishit@nishit-VirtualBox:~$ sudo apt install nodejs -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following package was automatically installed and is no longer required:
  libc-ares2
Use 'sudo apt autoremove' to remove it.
The following packages will be REMOVED:
  libnode64
The following NEW packages will be installed:
  nodejs
0 upgraded, 1 newly installed, 1 to remove and 62 not upgraded.
Need to get 27.2 MB of archives.
After this operation, 105 MB of additional disk space will be used.
Get:1 https://deb.nodesource.com/node_16.x focal/main amd64 nodejs amd64 16.19.1-deb-1nodesource1 [27.2 MB]
Fetched 27.2 MB in 3s (8,600 kB/s)
(Reading database ... 195969 files and directories currently installed.)
Removing libnode64:amd64 (10.19.0-dfsg-3ubuntu1) ...
Selecting previously unselected package nodejs.
(Reading database ... 195966 files and directories currently installed.)
Preparing to unpack .../nodejs_16.19.1-deb-1nodesource1_amd64.deb ...
Unpacking nodejs (16.19.1-deb-1nodesource1) ...
Setting up nodejs (16.19.1-deb-1nodesource1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.9) ...
Processing triggers for man-db (2.9.1-1) ...
```

- Check node version using below command:

node -v

```
nishit@nishit-VirtualBox:~$ node -v
v16.19.1
nishit@nishit-VirtualBox:~$
```

- ◆ Install NodeJs multiple versions.

- Update package lists:

sudo apt update

- Install nvm which allow us to install and manage multiple versions of Node.js:

curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.38.0/install.sh | bash

```
nishit@nishit-VirtualBox:~$ curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.38.0/install.sh | bash
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
100 14926  100 14926    0     0  33845      0 --:--:-- --:--:-- --:--:-- 33769
=> nvm is already installed in /home/nishit/.nvm, trying to update using git
* (HEAD detached at FETCH_HEAD)
  master
=> Compressing and cleaning up git repository

=> nvm source string already in /home/nishit/.bashrc
=> bash_completion source string already in /home/nishit/.bashrc
=> Close and reopen your terminal to start using nvm or run the following to use it now:

export NVM_DIR="$HOME/.nvm"
[ -s "$NVM_DIR/nvm.sh" ] && \. "$NVM_DIR/nvm.sh" # This loads nvm
[ -s "$NVM_DIR/bash_completion" ] && \. "$NVM_DIR/bash_completion" # This loads nvm bash_completion
nishit@nishit-VirtualBox:~$
```

- Install nvm dependency:

sudo apt-get install build-essential libssl-dev curl git-core

```
nishit@nishit-VirtualBox:~$ sudo apt-get install build-essential libssl-dev curl git-core
[sudo] password for nishit:
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'git' instead of 'git-core'
build-essential is already the newest version (12.8ubuntu1.1).
libssl-dev is already the newest version (1.1.1f-1ubuntu2.17).
The following package was automatically installed and is no longer required:
  libc-ares2
Use 'sudo apt autoremove' to remove it.
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email git-gui gitk
  gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  curl git git-man liberror-perl
0 upgraded, 4 newly installed, 0 to remove and 62 not upgraded.
Need to get 5,608 kB of archives.
After this operation, 38.9 MB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 curl amd64 7.68.0-1ubuntu2.15 [161 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu focal/main amd64 liberror-perl all 0.17029-1 [26.5 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu focal-updates/main amd64 git-man all 1:2.25.1-1ubuntu3.10 [887 kB]
```

- Download nvm using below repository:

git clone https://github.com/creationix/nvm.git ~/.nvm

```
nishit@nishit-VirtualBox:~$ git clone https://github.com/creationix/nvm.git ~/.nvm
Cloning into '/home/nishit/.nvm'...
remote: Enumerating objects: 8975, done.
remote: Total 8975 (delta 0), reused 0 (delta 0), pack-reused 8975
Receiving objects: 100% (8975/8975), 3.28 MiB | 4.56 MiB/s, done.
Resolving deltas: 100% (5712/5712), done.
```


- To activate nvm we need to source it from our bash shell

echo -e "\n. ~/.nvm/nvm.sh" >> ~/.bashrc

```
nishit@nishit-VirtualBox:~$ echo -e "\n. ~/.nvm/nvm.sh" >> ~/.bashrc
```

- Before install node version, First we need to open bash for that type bash.

bash

- Now, install different node version using nvm command.

nvm install 14.17.6

```
nishit@nishit-VirtualBox:~$ nvm install 14.17.6
Downloading and installing node v14.17.6...
Downloading https://nodejs.org/dist/v14.17.6/node-v14.17.6-linux-x64.tar.xz...
##### 100.0%
Computing checksum with sha256sum
Checksums matched!
Now using node v14.17.6 (npm v6.14.15)
```

nvm install v13

```
nishit@nishit-VirtualBox:~$ nvm install v13
Downloading and installing node v13.14.0...
Downloading https://nodejs.org/dist/v13.14.0/node-v13.14.0-linux-x64.tar.xz...
##### 100.0%
Computing checksum with sha256sum
Checksums matched!
Now using node v13.14.0 (npm v6.14.4)
```

nvm install v12

```
nishit@nishit-VirtualBox:~$ nvm install v12
Downloading and installing node v12.22.12...
Downloading https://nodejs.org/dist/v12.22.12/node-v12.22.12-linux-x64.tar.xz...
##### 100.0%
Computing checksum with sha256sum
Checksums matched!
Now using node v12.22.12 (npm v6.14.16)
```

nvm install v18.14.2

nvm install v17.9.1

```
nishit@nishit-VirtualBox:~$ nvm install v18.14.2
Downloading and installing node v18.14.2...
Downloading https://nodejs.org/dist/v18.14.2/node-v18.14.2-linux-x64.tar.xz...
##### 100.0%
Computing checksum with sha256sum
Checksums matched!
Now using node v18.14.2 (npm v9.5.0)
nishit@nishit-VirtualBox:~$ nvm install v17.9.1
Downloading and installing node v17.9.1...
Downloading https://nodejs.org/dist/v17.9.1/node-v17.9.1-linux-x64.tar.xz...
##### 100.0%
Computing checksum with sha256sum
Checksums matched!
Now using node v17.9.1 (npm v8.11.0)
```

- Check node version that we downloaded using below command:

npm ls

```
nishit@nishit-VirtualBox:~$ npm ls
v12.22.12
v13.14.0
v14.17.6
v15.14.0
-> v17.9.1
v18.14.2
v19.7.0
system
default -> node (-> v19.7.0)
iojs -> N/A (default)
unstable -> N/A (default)
node -> stable (-> v19.7.0) (default)
stable -> 19.7 (-> v19.7.0) (default)
lts/* -> lts/hydrogen (-> v18.14.2)
lts/argon -> v4.9.1 (-> N/A)
lts/boron -> v6.17.1 (-> N/A)
lts/carbon -> v8.17.0 (-> N/A)
lts/dubnium -> v10.24.1 (-> N/A)
lts/erbium -> v12.22.12
lts/fermium -> v14.21.3 (-> N/A)
lts/gallium -> v16.19.1 (-> N/A)
lts/hydrogen -> v18.14.2
```

- To switch latest version of node use below command:

```
nishit@nishit-VirtualBox:~$ npm alias default stable
default -> stable (-> v19.7.0)
```

◆ How to change the version of NodeJs.

- Switch to particular node version using below command:

npm use v14.17.6

```
nishit@nishit-VirtualBox:~$ npm use v14.17.6
Now using node v14.17.6 (npm v6.14.15)
```