Task 1: System Monitoring Setup

Install monitoring tools (htop, nmon, sysstat)

sudo yum install -y epel-release
sudo yum install -y htop nmon sysstat

```
[root@localhost ~]# sudo yum install -y epel-release
CentOS Stream 10 - BaseOS                        9.3 kB/s | 5.2 kB     00:00
CentOS Stream 10 - BaseOS                        2.4 MB/s | 6.7 MB     00:02
CentOS Stream 10 - AppStream                     7.8 kB/s | 5.2 kB     00:00
CentOS Stream 10 - AppStream                     261 kB/s | 3.4 MB     00:13
CentOS Stream 10 - Extras packages               14 kB/s | 5.9 kB     00:00
Extra Packages for Enterprise Linux 10 - x86_64  28 kB/s |  11 kB     00:00
Extra Packages for Enterprise Linux 10 - x86_64 1.6 MB/s | 5.3 MB     00:03
Jenkins-stable                                   11 kB/s | 2.9 kB     00:00
Package epel-release-10-6.el10_0.noarch is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@localhost ~]#
```

```
[root@localhost ~]# sudo yum install -y htop nmon sysstat
Last metadata expiration check: 0:00:55 ago on Sat 30 Aug 2025 08:41:36 AM IST.
Dependencies resolved.
================================================================================
 Package              Architecture          Version                  Repository      Size
================================================================================
Installing:
 htop                 x86_64                3.3.0-5.el10_0           epel           196 k
 nmon                 x86_64                16q-3.el10_1             epel            78 k
 sysstat              x86_64                12.7.6-2.el10            appstream      526 k
Installing dependencies:
 hwloc-libs           x86_64                2.11.1-3.el10            baseos         2.1 M
 lm_sensors-libs      x86_64                3.6.0-20.el10            appstream       42 k
 ocl-icd              x86_64                2.3.2-8.el10             baseos          67 k
 pcp-conf             x86_64                6.3.7-5.el10             appstream       30 k
 pcp-libs             x86_64                6.3.7-5.el10             appstream      654 k

Transaction Summary
================================================================================
Install  8 Packages

Total download size: 3.6 M
Installed size: 7.0 M
```

Enable sysstat for continuous metric collection

sudo systemctl enable --now sysstat

Check disk usage

df -hT # filesystem usage
du -sh /var/www/html /usr/share/nginx/html # web roots usage

```
[root@localhost ~]# sudo systemctl enable --now sysstat
[root@localhost ~]# df -hT
Filesystem              Type      Size  Used Avail Use% Mounted on
/dev/mapper/cs_vbox-root xfs        17G  1.6G   16G   9% /
devtmpfs                devtmpfs  4.0M     0  4.0M   0% /dev
tmpfs                   tmpfs     853M     0  853M   0% /dev/shm
tmpfs                   tmpfs     342M  4.9M  337M   2% /run
tmpfs                   tmpfs     1.0M     0  1.0M   0% /run/credentials/systemd-journald.service
/dev/sda2               xfs       960M  227M  734M  24% /boot
tmpfs                   tmpfs     1.0M     0  1.0M   0% /run/credentials/getty@tty1.service
tmpfs                   tmpfs     171M  4.0K  171M   1% /run/user/0
[root@localhost ~]# du -sh
184K    .
[root@localhost ~]#
```

Check resource-intensive processes

```
[root@localhost ~]# ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%mem | head
    PID    PPID CMD                         %MEM %CPU
    758       1 /usr/bin/python3 -sP /usr/s  2.4  0.2
      1       0 /usr/lib/systemd/systemd --  2.3  1.7
    774       1 /usr/sbin/NetworkManager --  0.9  0.0
   1327       1 /usr/lib/systemd/systemd --  0.7  0.1
    644       1 /usr/lib/systemd/systemd-ud  0.6  0.0
   1398     794 sshd-session: root [priv]    0.6  0.0
    759       1 /usr/lib/systemd/systemd-lo  0.5  0.0
    787       1 /usr/lib/systemd/systemd-ho  0.5  0.0
    598       1 /usr/lib/systemd/systemd-jo  0.4  0.0
[root@localhost ~]# ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu | head
    PID    PPID CMD                         %MEM %CPU
   1752    1403 ps -eo pid,ppid,cmd,%mem,%c  0.2  100
   1590       2 [kworker/0:14-events]        0.0  2.0
      1       0 /usr/lib/systemd/systemd --  2.3  1.7
   1585       2 [kworker/0:9-events]         0.0  1.7
      8       2 [kworker/0:0-xfs-conv/dm-0]  0.0  1.4
    211       2 [kworker/0:3-ata_sff]        0.0  0.4
    758       1 /usr/bin/python3 -sP /usr/s  2.4  0.2
   1327       1 /usr/lib/systemd/systemd --  0.7  0.1
     11       2 [kworker/u4:0-events_unboun  0.0  0.1
[root@localhost ~]#
```

Automated logging (create script)

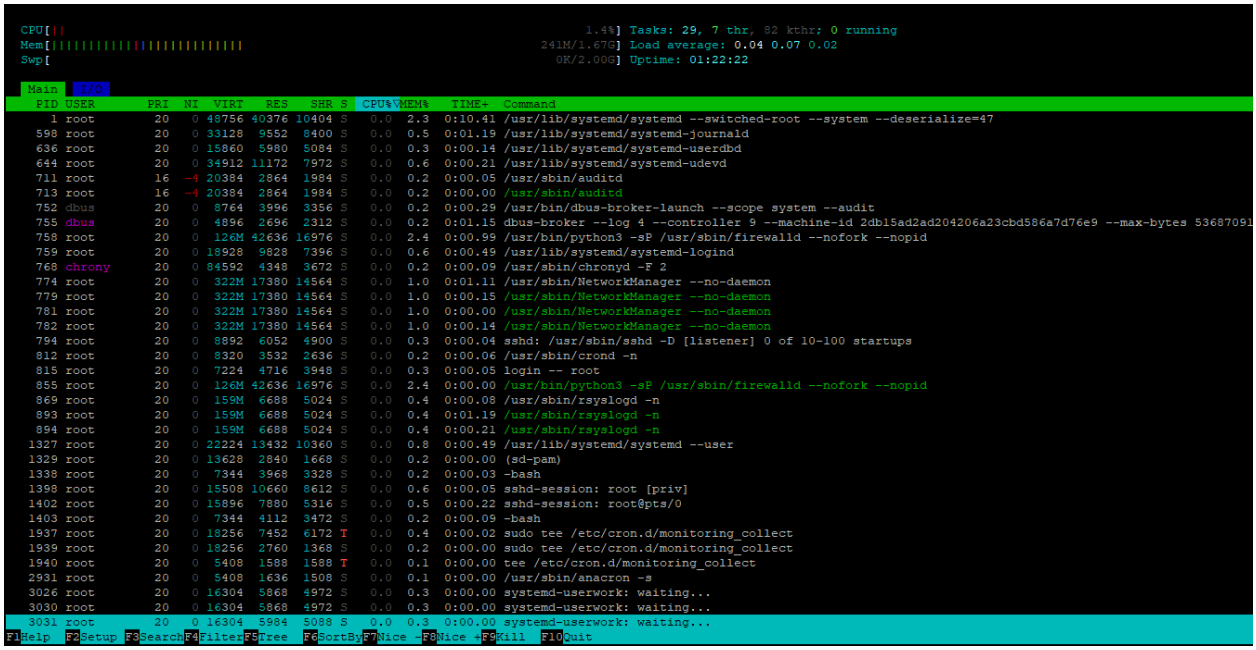
sudo vi /usr/local/bin/collect_metrics.sh

```
#!/bin/bash
LOG_DIR="/var/log/monitoring"
mkdir -p $LOG_DIR
LOG_FILE="$LOG_DIR/system_metrics_$(date +%F).log"

echo "===== $(date) =====" >> $LOG_FILE
uptime >> $LOG_FILE
top -b -n1 | head -n 20 >> $LOG_FILE
df -hT --total >> $LOG_FILE
ps -eo pid,ppid,cmd,%mem,%cpu --sort=-%cpu | head >> $LOG_FILE
~
```

```
[root@localhost ~]# sudo vi /usr/local/bin/collect_metrics.sh
[root@localhost ~]# sudo chmod +x /usr/local/bin/collect_metrics.sh
[root@localhost ~]#
```

sudo chmod +x /usr/local/bin/collect_metrics.sh

```
[root@localhost ~]# sudo vi /usr/local/bin/collect_metrics.sh
[root@localhost ~]# sudo chmod +x /usr/local/bin/collect_metrics.sh
[root@localhost ~]# echo "*/15 * * * * root /usr/local/bin/collect_metrics.sh" | sudo tee /etc/cron.d/monitoring_collect
*/15 * * * * root /usr/local/bin/collect_metrics.sh
[root@localhost ~]# echo "*/15 * * * * root /usr/local/bin/collect_metrics.sh"
*/15 * * * * root /usr/local/bin/collect_metrics.sh
[root@localhost ~]# sudo tee /etc/cron.d/monitoring_collect


^Z
[1]+  Stopped                 sudo tee /etc/cron.d/monitoring_collect
[root@localhost ~]#
```



Task 2 – User Management & Access Control

```
[root@localhost ~]# sudo useradd sarah
useradd: warning: the home directory /home/sarah already exists.
useradd: Not copying any file from skel directory into it.
Creating mailbox file: File exists
[root@localhost ~]# sudo passwd sarah
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
[root@localhost ~]# sudo useradd mike
useradd: warning: the home directory /home/mike already exists.
useradd: Not copying any file from skel directory into it.
Creating mailbox file: File exists
[root@localhost ~]# sudo passwd mike
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
[root@localhost ~]#
[root@localhost ~]#
```

sudo useradd sarah
sudo passwd sarah # set strong password (e.g., Strong#Passw0rd!)

sudo useradd mike
sudo passwd mike # set strong password (e.g., Stronger#Passw0rd2)

Create isolated directories

```
[root@localhost ~]# mkdir -p /home/Sarah/workspace
[root@localhost ~]# chown -R sarah:sarah /home/Sarah
[root@localhost ~]# chmod 700 /home/Sarah/workspace
[root@localhost ~]# mkdir -p /home/mike/workspace
[root@localhost ~]# chown -R mike:mike /home/mike
[root@localhost ~]# chmod 700 /home/mike/workspace
[root@localhost ~]#
```

mkdir -p /home/Sarah/workspace
chown -R sarah:sarah /home/Sarah
chmod 700 /home/Sarah/workspace

mkdir -p /home/mike/workspace
chown -R mike:mike /home/mike
chmod 700 /home/mike/workspace

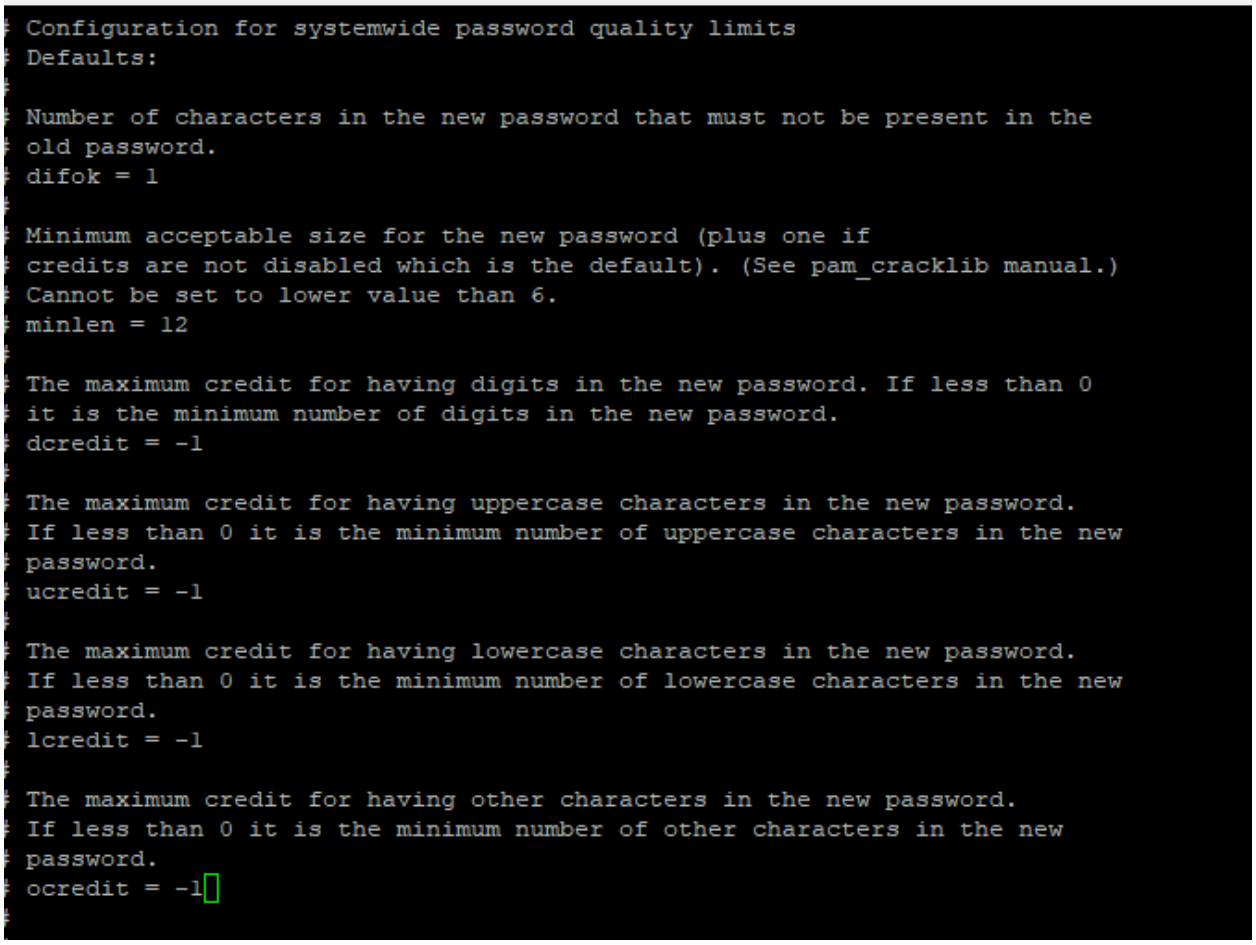
Set password policy (expire in 30 days)

```
[root@localhost ~]# sudo chage -M 30 sarah
[root@localhost ~]# sudo chage -M 30 mike
[root@localhost ~]#
```

sudo chage -M 30 sarah
sudo chage -M 30 mike

Enforce complexity policy (edit PAM config)

sudo vi /etc/security/pwquality.conf



minlen = 12
ucredit = -1
lcredit = -1
dcredit = -1
ocredit = -1

```
[root@localhost ~]# ls -ld /home/Sarah/workspace
drwx------. 2 sarah sarah 6 Aug 30 12:44 /home/Sarah/workspace
[root@localhost ~]# ls -ld /home/mike/workspace
drwx------. 2 mike mike 6 Aug 30 12:46 /home/mike/workspace
[root@localhost ~]# sudo chage -l sarah
Last password change                                    : Aug 30, 2025
Password expires                                        : Sep 29, 2025
Password inactive                                       : never
Account expires                                         : never
Minimum number of days between password change          : 0
Maximum number of days between password change          : 30
Number of days of warning before password expires       : 7
[root@localhost ~]# sudo chage -l mike
Last password change                                    : Aug 30, 2025
Password expires                                        : Sep 29, 2025
Password inactive                                       : never
Account expires                                         : never
Minimum number of days between password change          : 0
Maximum number of days between password change          : 30
Number of days of warning before password expires       : 7
[root@localhost ~]#
```

ls -ld /home/Sarah/workspace
ls -ld /home/mike/workspace
sudo chage -l sarah
sudo chage -l mike

```
[root@localhost ~]# ls -ld
dr-xr-x---. 5 root root 4096 Aug 30 11:05 .
[root@localhost ~]# chage -l
Usage: chage [options] LOGIN

Options:
  -d, --lastday LAST_DAY        set date of last password change to LAST_DAY
  -E, --expiredate EXPIRE_DATE  set account expiration date to EXPIRE_DATE
  -h, --help                    display this help message and exit
  -i, --iso8601                 use YYYY-MM-DD when printing dates
  -I, --inactive INACTIVE       set password inactive after expiration
                                to INACTIVE
  -l, --list                    show account aging information
  -m, --mindays MIN_DAYS        set minimum number of days before password
                                change to MIN_DAYS
  -M, --maxdays MAX_DAYS        set maximum number of days before password
                                change to MAX_DAYS
  -R, --root CHROOT_DIR         directory to chroot into
  -P, --prefix PREFIX_DIR       directory prefix
  -W, --warndays WARN_DAYS      set expiration warning days to WARN_DAYS

[root@localhost ~]#
```

Task 3 – Backup Configuration for Web Servers

Create backup directory

```
[root@localhost ~]# sudo mkdir -p /backups
[root@localhost ~]# sudo chmod 755 /backups
[root@localhost ~]#
```

sudo mkdir -p /backups
sudo chmod 755 /backups

Create backup scripts

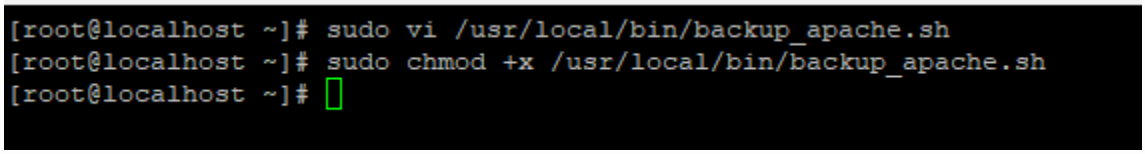
sudo vi /usr/local/bin/backup_apache.sh

```
#!/bin/bash
# Backup Script for Apache (Sarah)
# Backs up Apache config and document root

BACKUP_DIR="/backups"
DATE=$(date +%F)
BACKUP_FILE="$BACKUP_DIR/apache_backup_$DATE.tar.gz"
LOG_FILE="/var/log/backup/apache_backup.log"

# Create compressed backup
tar -czf $BACKUP_FILE /etc/httpd/ /var/www/html/ 2>> $LOG_FILE

# Verify backup integrity
echo "[$(date)] Backup created: $BACKUP_FILE" >> $LOG_FILE
echo "[$(date)] Verifying backup contents..." >> $LOG_FILE
tar -tzf $BACKUP_FILE >> $LOG_FILE 2>&1

# Generate checksum
sha256sum $BACKUP_FILE > $BACKUP_FILE.sha256
echo "[$(date)] SHA256 checksum generated: $BACKUP_FILE.sha256" >> $LOG_FILE
```

#!/bin/bash
Backup Script for Apache (Sarah)
Backs up Apache config and document root

BACKUP_DIR="/backups"
DATE=$(date +%F)

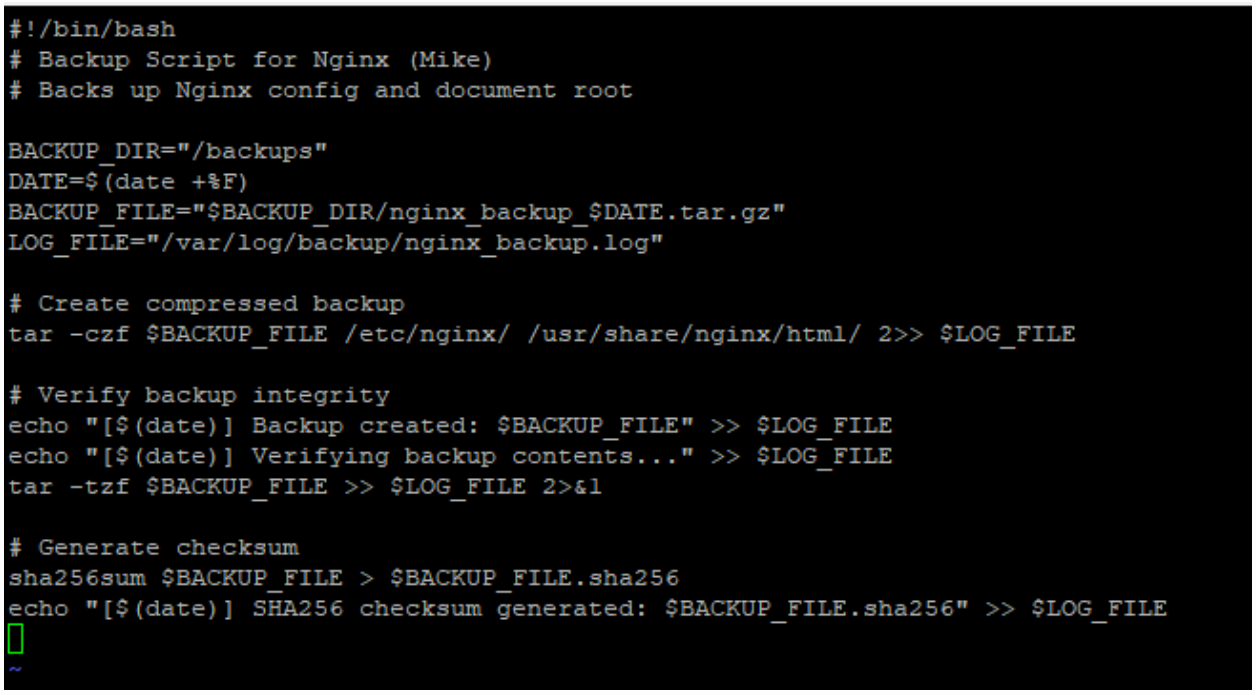
```
BACKUP_FILE="$BACKUP_DIR/apache_backup_$DATE.tar.gz"
LOG_FILE="/var/log/backup/apache_backup.log"

# Create compressed backup
tar -czf $BACKUP_FILE /etc/httpd/ /var/www/html/ 2>> $LOG_FILE

# Verify backup integrity
echo "[$(date)] Backup created: $BACKUP_FILE" >> $LOG_FILE
echo "[$(date)] Verifying backup contents..." >> $LOG_FILE
tar -tzf $BACKUP_FILE >> $LOG_FILE 2>&1

# Generate checksum
sha256sum $BACKUP_FILE > $BACKUP_FILE.sha256
echo "[$(date)] SHA256 checksum generated: $BACKUP_FILE.sha256" >> $LOG_FILE
```



sudo chmod +x /usr/local/bin/backup_apache.sh

Nginx (Mike)

sudo vi /usr/local/bin/backup_nginx.sh



```
#!/bin/bash
# Backup Script for Nginx (Mike)
# Backs up Nginx config and document root

BACKUP_DIR="/backups"
DATE=$(date +%F)
BACKUP_FILE="$BACKUP_DIR/nginx_backup_$DATE.tar.gz"
LOG_FILE="/var/log/backup/nginx_backup.log"

# Create compressed backup
tar -czf $BACKUP_FILE /etc/nginx/ /usr/share/nginx/html/ 2>> $LOG_FILE

# Verify backup integrity
echo "[$(date)] Backup created: $BACKUP_FILE" >> $LOG_FILE
echo "[$(date)] Verifying backup contents..." >> $LOG_FILE
tar -tzf $BACKUP_FILE >> $LOG_FILE 2>&1

# Generate checksum
sha256sum $BACKUP_FILE > $BACKUP_FILE.sha256
echo "[$(date)] SHA256 checksum generated: $BACKUP_FILE.sha256" >> $LOG_FILE
~
```


#!/bin/bash
Backup Script for Nginx (Mike)
Backs up Nginx config and document root

BACKUP_DIR="/backups"
DATE=$(date +%F)
BACKUP_FILE="$BACKUP_DIR/nginx_backup_$DATE.tar.gz"
LOG_FILE="/var/log/backup/nginx_backup.log"

Create compressed backup
tar -czf $BACKUP_FILE /etc/nginx/ /usr/share/nginx/html/ 2>> $LOG_FILE

Verify backup integrity
echo "[$(date)] Backup created: $BACKUP_FILE" >> $LOG_FILE
echo "[$(date)] Verifying backup contents..." >> $LOG_FILE
tar -tzf $BACKUP_FILE >> $LOG_FILE 2>&1

Generate checksum
sha256sum $BACKUP_FILE > $BACKUP_FILE.sha256
echo "[$(date)] SHA256 checksum generated: $BACKUP_FILE.sha256" >> $LOG_FILE

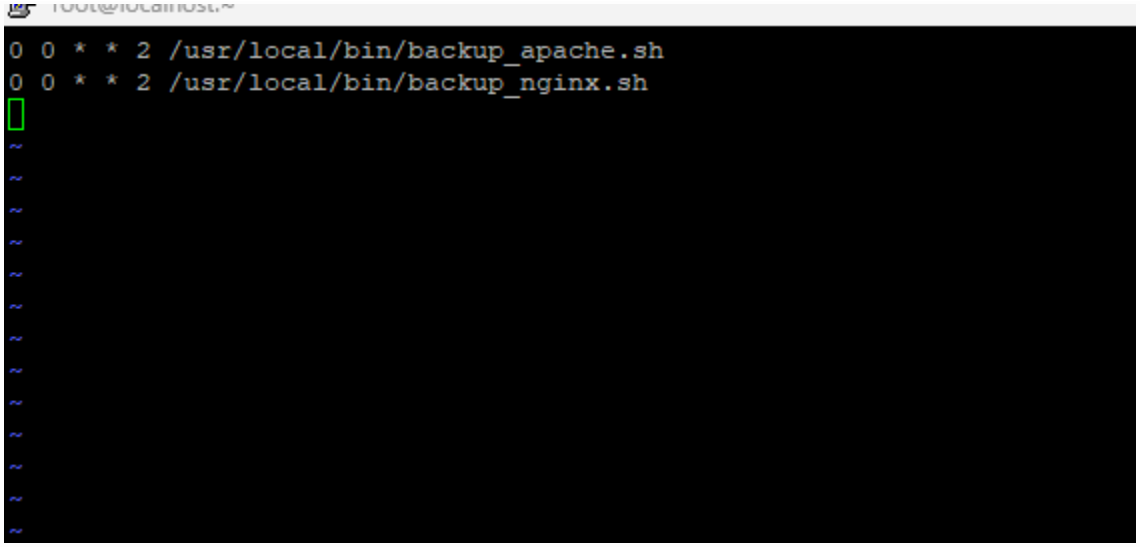
```
[root@localhost ~]# sudo vi /usr/local/bin/backup_apache.sh
[root@localhost ~]# sudo chmod +x /usr/local/bin/backup_apache.sh
[root@localhost ~]# sudo vi /usr/local/bin/backup_nginx.sh
[root@localhost ~]# sudo chmod +x /usr/local/bin/backup_nginx.sh
[root@localhost ~]#
```

sudo chmod +x /usr/local/bin/backup_nginx.sh

sudo crontab -e

Schedule cron jobs (every Tuesday at 12 AM)

0 0 * * 2 /usr/local/bin/backup_apache.sh
0 0 * * 2 /usr/local/bin/backup_nginx.sh



Apache (Sarah's Web Server)

sudo yum install -y httpd

```
[sarah@localhost root]$ sudo yum install -y httpd
Last metadata expiration check: 1:54:00 ago on Sat 30 Aug 2025 11:38:22 AM IST.
Package httpd-2.4.63-4.el10.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[sarah@localhost root]$ sudo systemctl start httpd
[sarah@localhost root]$ sudo systemctl enable httpd
Created symlink '/etc/systemd/system/multi-user.target.wants/httpd.service' → '/usr/lib/systemd/system/httpd.service'.
[sarah@localhost root]$ sudo systemctl status httpd
● httpd.service - The Apache HTTP Server
     Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled; preset: disabled)
     Active: active (running) since Sat 2025-08-30 13:32:46 IST; 23s ago
 Invocation: 88046952c2df42e4b19c8d26e478c5aa
       Docs: man:httpd.service(8)
   Main PID: 23020 (httpd)
     Status: "Total requests: 0; Idle/Busy workers 100/0;Requests/sec: 0; Bytes served/sec:   0 B/sec"
      Tasks: 177 (limit: 10696)
     Memory: 17.5M (peak: 17.8M)
        CPU: 295ms
     CGroup: /system.slice/httpd.service
             ├─23020 /usr/sbin/httpd -DFOREGROUND
             ├─23021 /usr/sbin/httpd -DFOREGROUND
             ├─23022 /usr/sbin/httpd -DFOREGROUND
             ├─23023 /usr/sbin/httpd -DFOREGROUND
             └─23063 /usr/sbin/httpd -DFOREGROUND

Aug 30 13:32:45 localhost.localdomain systemd[1]: Starting httpd.service - The Apache HTTP Server...
Aug 30 13:32:45 localhost.localdomain (httpd)[23020]: httpd.service: Referenced but unset environment variable evaluates to an empty string: OPTIONS
Aug 30 13:32:45 localhost.localdomain httpd[23020]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name, using localhost.localdomain.
Aug 30 13:32:46 localhost.localdomain systemd[1]: Started httpd.service - The Apache HTTP Server.
Aug 30 13:32:46 localhost.localdomain httpd[23020]: Server configured, listening on: port 80

[sarah@localhost root]$
```

sudo firewall-cmd --permanent --add-service=http
sudo firewall-cmd --permanent --add-service=https
sudo firewall-cmd --reload

```
[sarah@localhost root]$ sudo firewall-cmd --permanent --add-service=http
success
[sarah@localhost root]$ sudo firewall-cmd --permanent --add-service=https
success
[sarah@localhost root]$ sudo firewall-cmd --reload
success
[sarah@localhost root]$ sudo vi /etc/httpd/conf.d/sarah_site.conf
[sarah@localhost root]$
```

```
<VirtualHost *:80>
    ServerAdmin sarah@techcorp.com
    ServerName sarah.local
    DocumentRoot /var/www/html/sarah
    ErrorLog /var/log/httpd/sarah_error.log
    CustomLog /var/log/httpd/sarah_access.log combined
</VirtualHost>
~
~
~
```

```
[sarah@localhost root]$ sudo mkdir -p /var/www/html/sarah
[sarah@localhost root]$ echo "<h1>Welcome to Sarah's Apache site</h1>" | sudo tee /var/www/html/sarah/index.html
<h1>Welcome to Sarah's Apache site</h1>
[sarah@localhost root]$ sudo chown -R apache:apache /var/www/html/sarah
[sarah@localhost root]$ sudo chmod -R 755 /var/www/html/sarah
[sarah@localhost root]$ sudo systemctl restart httpd
[sarah@localhost root]$
```

sudo mkdir -p /var/www/html/sarah
echo "<h1>Welcome to Sarah's Apache site</h1>" | sudo tee /var/www/html/sarah/index.html
sudo chown -R apache:apache /var/www/html/sarah
sudo chmod -R 755 /var/www/html/sarah

sudo systemctl restart httpd

```
[sarah@localhost root]$ curl http://localhost
<h1>Welcome to Sarah's Apache site</h1>
[sarah@localhost root]$ curl http://localhost/sarah
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html><head>
<title>404 Not Found</title>
</head><body>
<h1>Not Found</h1>
<p>The requested URL was not found on this server.</p>
</body></html>
[sarah@localhost root]$
```

Verify

curl http://localhost
curl http://localhost/sarah

Nginx (Mike's Web Server)

```
[root@localhost ~]# sudo usermod -aG wheel mike
[root@localhost ~]# # give the full permition for mike user
[root@localhost ~]# su mike
[mike@localhost root]$ sudo yum install -y epel-release
[sudo] password for mike:
Last metadata expiration check: 2:04:25 ago on Sat 30 Aug 2025 11:38:22 AM IST.
Package epel-release-10-6.el10_0.noarch is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[mike@localhost root]$
```

```
sudo usermod -aG wheel mike
sudo yum install -y epel-release
sudo yum install -y nginx
```

```
[mike@localhost root]$ sudo yum install -y nginx
Last metadata expiration check: 2:07:19 ago on Sat 30 Aug 2025 11:38:22 AM IST.
Dependencies resolved.
================================================================================
 Package                 Architecture            Version                 Repository              Size
================================================================================
Installing:
 nginx                   x86_64                  2:1.26.3-1.el10         appstream               33 k
Installing dependencies:
 nginx-core              x86_64                  2:1.26.3-1.el10         appstream              662 k
 nginx-filesystem        noarch                  2:1.26.3-1.el10         appstream               12 k

Transaction Summary
================================================================================
Install  3 Packages

Total download size: 707 k
Installed size: 1.9 M
Downloading Packages:
(1/3): nginx-filesystem-1.26.3-1.el10.noarch.rpm  2.7 kB/s |  12 kB     00:04
(2/3): nginx-1.26.3-1.el10.x86_64.rpm             5.1 kB/s |  33 kB     00:06
(3/3): nginx-core-1.26.3-1.el10.x86_64.rpm         37 kB/s | 662 kB     00:17
--------------------------------------------------------------------------------
Total                                              33 kB/s | 707 kB     00:21
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                        1/1
  Running scriptlet: nginx-filesystem-2:1.26.3-1.el10.noarch                1/3
  Installing       : nginx-filesystem-2:1.26.3-1.el10.noarch                1/3
  Installing       : nginx-core-2:1.26.3-1.el10.x86_64                      2/3
  Installing       : nginx-2:1.26.3-1.el10.x86_64                           3/3
  Running scriptlet: nginx-2:1.26.3-1.el10.x86_64                           3/3

Installed:
  nginx-2:1.26.3-1.el10.x86_64          nginx-core-2:1.26.3-1.el10.x86_64          nginx-filesystem-2:1.26.3-1.el10.noarch

Complete!
[mike@localhost root]$
```

```
[mike@localhost root]$ sudo systemctl stop httpd
[mike@localhost root]$ sudo systemctl disable httpd
Removed '/etc/systemd/system/multi-user.target.wants/httpd.service'.
[mike@localhost root]$ sudo systemctl start nginx
[mike@localhost root]$ sudo systemctl enable nginx
Created symlink '/etc/systemd/system/multi-user.target.wants/nginx.service' → '/usr/lib/systemd/system/nginx.service'.
[mike@localhost root]$ sudo systemctl status nginx
● nginx.service - The nginx HTTP and reverse proxy server
     Loaded: loaded (/usr/lib/systemd/system/nginx.service; enabled; preset: disabled)
     Active: active (running) since Sat 2025-08-30 13:50:50 IST; 24s ago
 Invocation: aa592b50c640413b9ffe2c60d514f7b1
   Main PID: 23794 (nginx)
      Tasks: 2 (limit: 10696)
     Memory: 2.3M (peak: 2.8M)
        CPU: 94ms
     CGroup: /system.slice/nginx.service
             ├─23794 "nginx: master process /usr/sbin/nginx"
             └─23795 "nginx: worker process"

Aug 30 13:50:50 localhost.localdomain systemd[1]: Starting nginx.service - The nginx HTTP and reverse proxy server...
Aug 30 13:50:50 localhost.localdomain nginx[23791]: nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
Aug 30 13:50:50 localhost.localdomain nginx[23791]: nginx: configuration file /etc/nginx/nginx.conf test is successful
Aug 30 13:50:50 localhost.localdomain systemd[1]: Started nginx.service - The nginx HTTP and reverse proxy server.
[mike@localhost root]$
```

Start and Enable the Service

```
# Stop Apache if running
sudo systemctl stop httpd
sudo systemctl disable httpd

# Then start nginx
sudo systemctl start nginx
sudo systemctl enable nginx
sudo systemctl status nginx
```

Configure Firewall for Nginx

```
sudo firewall-cmd --permanent --add-service=http
sudo firewall-cmd --permanent --add-service=https
sudo firewall-cmd --reload
```

```
[mike@localhost root]$ sudo firewall-cmd --permanent --add-service=http
Warning: ALREADY_ENABLED: http
success
[mike@localhost root]$ sudo firewall-cmd --permanent --add-service=https
Warning: ALREADY_ENABLED: https
success
[mike@localhost root]$ sudo firewall-cmd --reload
success
[mike@localhost root]$
```

Create a Server Block for Mike

sudo vi /etc/nginx/conf.d/mike_site.conf

```
server {
    listen 80;
    server_name mike.local;

    root /usr/share/nginx/html/mike;
    index index.html;

    access_log /var/log/nginx/mike_access.log;
    error_log /var/log/nginx/mike_error.log;
}
~
~
~
~
```

Setup Document Root
sudo mkdir -p /usr/share/nginx/html/mike
echo "<h1>Welcome to Mike's Nginx site</h1>" | sudo tee /usr/share/nginx/html/mike/index.html
sudo chown -R nginx:nginx /usr/share/nginx/html/mike
sudo chmod -R 755 /usr/share/nginx/html/mike

```
[mike@localhost root]$ sudo vi /etc/nginx/conf.d/mike_site.conf
[mike@localhost root]$ sudo mkdir -p /usr/share/nginx/html/mike
[mike@localhost root]$ echo "<h1>Welcome to Mike's Nginx site</h1>" | sudo tee /
usr/share/nginx/html/mike/index.html
<h1>Welcome to Mike's Nginx site</h1>
[mike@localhost root]$ sudo chown -R nginx:nginx /usr/share/nginx/html/mike
[mike@localhost root]$ sudo chmod -R 755 /usr/share/nginx/html/mike
[mike@localhost root]$
```

Test Config and Restart


```
[mike@localhost root]$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
[mike@localhost root]$ sudo systemctl restart nginx
[mike@localhost root]$ curl http://localhost/mike
<html>
<head><title>301 Moved Permanently</title></head>
<body>
<center><h1>301 Moved Permanently</h1></center>
<hr><center>nginx/1.26.3</center>
</body>
</html>
[mike@localhost root]$
```