**DevOps Assignment Report**

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**Role:** Fresher DevOps Engineer  
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**Task 1: System Monitoring Setup (15 Marks)**

**Tools Used:**

* htop – for real-time CPU, memory, and process monitoring
* df, du – for disk usage tracking
* Logging system output using cron

**Steps Taken:**

1. Installed htop using sudo apt install htop
2. Used df -h and du -sh to monitor disk space.
3. Set up a cron job to log system resource data every hour:

bash

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0 \* \* \* \* htop -b -n 1 > /var/log/htop\_output.log

**Verification:**

* Screenshot of htop running
* Output of disk usage logs

**Task 2: User Management & Access Control (10 Marks)**

**Users Created:**

* Sarah
* mike

**Steps Taken:**

1. Created users:

bash

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sudo adduser Sarah

sudo adduser mike

1. Created isolated workspace directories:

bash

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sudo mkdir -p /home/Sarah/workspace

sudo mkdir -p /home/mike/workspace

sudo chown Sarah:Sarah /home/Sarah/workspace

sudo chown mike:mike /home/mike/workspace

sudo chmod 700 /home/Sarah/workspace

sudo chmod 700 /home/mike/workspace

1. Enforced password policy:

bash

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sudo chage -M 30 Sarah

sudo chage -M 30 mike

**Verification:**

* Permission denied test between users
* chage -l Sarah shows 30-day expiry

**Task 3: Backup Configuration (20 Marks)**

**Backup Paths:**

* **Sarah (Apache):** /etc/httpd/, /var/www/html/
* **Mike (Nginx):** /etc/nginx/, /usr/share/nginx/html/

**Steps Taken:**

1. Created backup directory:

bash

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sudo mkdir -p /backups

1. Created Apache backup script /usr/local/bin/backup\_apache.sh
2. Created Nginx backup script /usr/local/bin/backup\_nginx.sh
3. Scheduled both using crontab:

bash

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0 0 \* \* 2 /usr/local/bin/backup\_apache.sh

0 0 \* \* 2 /usr/local/bin/backup\_nginx.sh

**Verification:**

* Backup files named like: apache\_backup\_2025-08-06.tar.gz
* Verification logs created: apache\_verify\_\*.log, nginx\_verify\_\*.log
* File contents listed using tar -tzf