### **Step 1: Ensure/Double Check Permissions on Sensitive Files**

1. Permissions on /etc/shadow should allow only root read and write access.  
   * Command to inspect permissions: **ls -l /etc/shadow**
   * Command to set permissions (if needed): **sudo chmod 600 /etc/shadow**
2. Permissions on /etc/gshadow should allow only root read and write access.  
   * Command to inspect permissions: **ls -l /etc/gshadow**
   * Command to set permissions (if needed): **sudo chmod 600 /etc/gshadow**
3. Permissions on /etc/group should allow root read and write access, and allow everyone else read access only.  
   * Command to inspect permissions: **ls -l /etc/group**
   * Command to set permissions (if needed): **sudo chmod 644 /etc/group**
4. Permissions on /etc/passwd should allow root read and write access, and allow everyone else read access only.  
   * Command to inspect permissions: **ls -l /etc/passwd**
   * Command to set permissions (if needed): **none**

### **Step 2: Create User Accounts**

Add user accounts for sam, joe, amy, sara, and admin.

* **sudo useradd sam**
* **sudo useradd joe**
* **sudo useradd amy**
* **sudo useradd sara**
* **sudo useradd admin**
  + Command to add each user account (include all five users):

Ensure that only the admin has general sudo access.

* + Command to add admin to the sudo group:
* **sudo usermod -a -G sudo admin**

### **Step 3: Create User Group and Collaborative Folder**

1. Add an engineers group to the system.

* **sudo groupadd engineers**  
  + Command to add group:

1. Add users sam, joe, amy, and sara to the managed group.

**- sudo usermod -a -G engineers sam**

**-sudo usermod -a -G engineers joe**

**-sudo usermod -a -G engineers amy**

**-sudo usermod -a -G engineers sara**

* + Command to add users to engineers group (include all four users):

1. Create a shared folder for this group at /home/engineers.

**-sudo mkdir /home/engineers**

* + Command to create the shared folder:

1. Change ownership on the new engineers' shared folder to the engineers group.

**-sudo chown : engineers engineers**

* + Command to change ownership of engineer's shared folder to engineer group:

### **Step 4: Lynis Auditing**

1. Command to install Lynis: **sudo apt lynis -y**
2. Command to see documentation and instructions: **man lynis**
3. Command to run an audit: **sudo lynis audit system**
4. Provide a report from the Lynis output on what can be done to harden the system.

**Screenshot is in the hw unit 4 folder.**

* + Screenshot of report output:

