

1. Edit `/etc/passwd` to create a new user account for user **joeuser**. Use **vi** (not **vi**) to edit `/etc/passwd`. This will run **vi** (or whatever editor you have configured with the environment variable **EDITOR**), but will create a *cooperative lock* on `/etc/passwd` to prevent simultaneous edits. The lock is cooperative meaning that it only works if everyone uses **vi**, so get in the habit of using **vi**!

A record in `/etc/passwd` has 7 fields; you need to fill each of these with the appropriate values. The 7 fields you need to set are in the table below. For this lab, use the values listed under the **Value to Use** column. Below the table are some tips to help you edit the password file.

Field	Description	Value to Use
Login Name	Enter the new user's login account name here.	joeuser
Password	Place either the letter x or a * here. If your system has an <code>/etc/shadow</code> file, you are using shadow (hidden) passwords. Place an x in the encrypted password field to indicate that the password is really stored in the <code>/etc/shadow</code> file. If you do not have an <code>/etc/shadow</code> file, place the character * in this field, to indicate that the login is currently disabled. This will prevent a small window of time where the user has no password - the account is disabled until you are done creating it, and the real encrypted password will be filled in later by the passwd command.	x
User Id	Enter an unused UID, typically above 100.	1234
Group ID	Enter the GID you want the user to belong to.	4321
GECOS	The GECOS field is also known as the Real Name field. Enter the user's full real name.	Joe User
Home Directory	Enter the full path to the home directory for the user.	/home/joeuser
Login Shell	Enter the shell the user will use by default.	/bin/bash

The new password record should look like:

```
joeuser:x:1234:4321:Joe User:/home/joeuser:/bin/bash
```

Save your changes and quit the editor when all fields have been entered.

Tips: Once in **vi**, the easiest way to create a new user is to copy and paste an existing entry. Go to the end of the file with the **G** command. You can quickly copy and paste **vi** by *yanking* and *putting* the line you want to duplicate. Try the following 3 keystrokes: **GYP** - this will **go** (**G**) to the end of the file, **yank** (**Y**) the current line, and **put** (**P**) it after the yanked line. The copied line is now the last line in the file. Then move the cursor into each field of the new user you are creating. Start with the first field, the login name. You can quickly change fields with the Change Word command - the keystrokes are **cw**. Enter **cw** and just start typing in the value, hitting the Escape key when the field is entered. Move the cursor to the beginning of the next field, and repeat the process.

2. Our Linux installation uses `/etc/shadow`, so you have to add an entry for the user. The procedure for this is similar to that of `/etc/passwd`, but the fields of each record are **not** the same. Edit `/etc/shadow`, and copy the last entry using the same process as you did above. Then, change only the first two fields of your new entry (we are going to ignore the other fields for now). The first field is the user name, and the second field is the encrypted password. Set the user name to **joeuser** and the password to *****.
3. Set the user's initial password by running the **passwd** command.

```
# passwd joeuser
```

and enter a password for the user.

4. Create the user's home directory, using the **mkdir** command:

```
# mkdir /home/joeuser
```

5. Copy the standard skeleton dot files for the user into the user's home directory. On RedHat, they are in **/etc/skel**. Use **ls -a** to see the dot files. For your user, just copy the three **.bash*** files.

```
# cp /etc/skel/.bash* /home/joeuser
```

6. Edit **/etc/group** using your favorite editor. The fields in the **/etc/group** file are listed in the table below. Use the values specified in the table below.

Field	Description	Value to Use
Group Name	Enter the name of the new group.	cis68
Password	Group passwords typically are not used - place an x here to disable group passwords (which are rarely ever used).	x
Group ID	Enter a unique new group id.	4321
Group Members	Enter a comma-separated list of login names who are to be members of this group.	joeuser

The new group record should look like:

```
cis68:x:4321:joeuser:
```

Note the trailing ':', which is normal, but opposite of the **/etc/passwd** file.

7. Change the owner, group, and permissions of the user's home directory and files. Use the UID and GID values you entered in the password entry. Use 700 as the default value for permissions.

```
# chown -R joeuser /home/joeuser
# chgrp -R cis68 /home/joeuser
# chmod 700 /home/joeuser
# chmod 644 /home/joeuser/.??*
```

8. Check your entries in **/etc/passwd**, **/etc/shadow**, and **/etc/group**. Check that you have copied the skeleton dotfiles. And very importantly, check that the user's file and directory permissions are correct, especially the permissions of **/home** (or whichever directory contains your user accounts). The commands below will help you with validation.

```
# ls -la /home/joeuser
# grep joeuser /etc/passwd
# grep joeuser /etc/shadow
# grep cis68 /etc/group
```

9. The account should now be ready. Now log into the account to be sure the login works. Log off as the **root** user, and then try to log in to the newly created account. Don't just use **su**, since as root, you will not be required to enter a password - you should validate that the password you created actually works. Try the commands below:

```
# who am i
# last | head -2
```